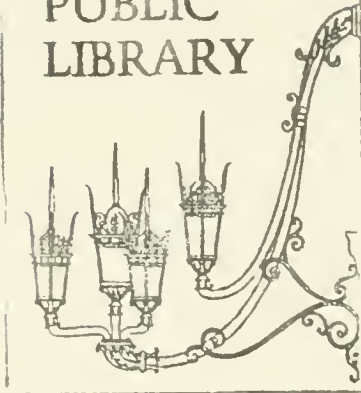
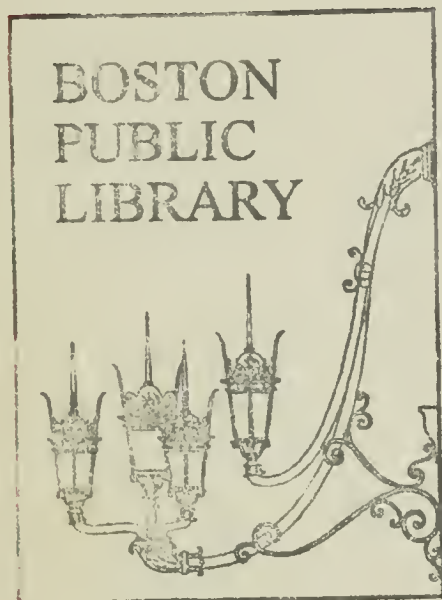

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Facility Master Plan

Children's Medical Center

FACILITY MASTER PLAN

**CHILDREN'S MEDICAL CENTER
BOSTON**

FOR APPROVAL BY THE BOSTON REDEVELOPMENT AUTHORITY

APRIL 1992

Prepared by:

OFFICE OF FACILITY PLANNING AND SPACE MANAGEMENT

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VANASSE HANGEN BRUSTLIN, INC.

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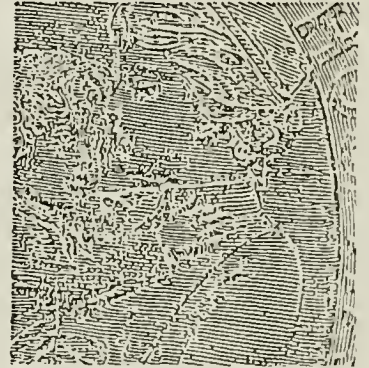
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1 Planning Context

1.0 PLANNING CONTEXT

1.1 MISSION STATEMENT

The mission of Children's Hospital is to provide the highest quality care to children, and in support of this mission, to be the leading source of research and discovery, seeking new approaches to the prevention, diagnosis and treatment of childhood diseases as well as to educate the next generation of leaders in child health.

1.2 PROGRAMS

Children's Hospital is the largest pediatric medical center in the United States. Founded in 1869 as a 20 bed hospital for children, it is now a 349 bed comprehensive center for pediatric health care, offering a complete range of health care services for patients from birth through age 21 (and older in special cases). The hospital discharges approximately 16,000 patients each year, and its more than 100 outpatient programs and ambulatory and emergency services handle more than 245,000 patient visits annually.

Children's is the primary pediatric teaching hospital of Harvard Medical School, where most of its physicians hold faculty appointments. The medical staff includes approximately 700 physicians and dentists, 450 house staff and fellows, and a nursing staff of 900. The hospital has more than 4,700 employees and 750 volunteers.

The world's largest pediatric research facility is located at Children's. In the John F. Enders Laboratory for Pediatric Research, named for the Nobel Prize recipient who cultured the polio and measles viruses at Children's, major research areas include cardiology, genetics, hematology, immunology, infectious diseases, mental retardation, neonatology, neurology, oncology, orthopaedics, otolaryngology, pathology, pulmonary medicine and surgery.

Children's Hospital is a subsidiary of Children's Medical Center, a corporation that also owns Children's Extended Care Center in Groton, MA. Children's Hospital operates the Martha Eliot Health Center, a neighborhood health facility in Jamaica Plain and the Children's Hospital Specialty Care Center, an outpatient referral facility in Lexington, MA. The hospital also provides a variety of contracted clinical services, including services to Wrentham State School in Wrentham MA, and the pediatric emergency services at Framingham Union Hospital.

Children's participates in numerous cooperative programs, including the Boston Center for Heart Transplantation and the Boston Center for Liver Transplantation. It is a partner in the Joint Program for Neonatology and the Longwood Area Trauma Center with Beth

Israel and Brigham and Women's hospitals. The hospital also participates in a collaborative program in hematology and oncology with Dana-Farber Cancer Institute, providing diagnosis and treatment of childhood cancers. Other joint programs include those in gastroenterology and nutrition with Massachusetts General Hospital; psychiatry with Judge Baker Children's Center; and radiation therapy with Beth Israel, Brigham and Women's, New England Deaconess Hospital and Dana-Farber Cancer Institute.

1.3 PLANNING CONTEXT

Children's Hospital operations have increased dramatically over the past decade, creating the need to reconsider the space and facilities available for programs. The most important expansion of activities has been in the following areas:

- o While the number of patient days and licensed patient beds have remained relatively constant, the number of patient discharges has increased by 16% since 1984. Overall, the average length of stay has been reduced from 7.4 days in 1980 to 6.2 days in 1991. This has been accompanied by an increased ambulatory clinic volume. Inpatient surgery procedures have increased by 10% since 1980, while outpatient surgery has increased by 75% over the same period and now accounts for approximately 40% of all surgery performed at Children's.
- o Ambulatory care visits have increased by more than 25% since 1980. A substantial fraction of the growth has been in the three programs which provide primary care to children and families in Boston -- the Comprehensive Child Health Care (CCHP) program, the Pediatric Group Associates (PGA) program, and the Martha Eliot Health Center programs. These programs currently account for almost 40% of ambulatory care visits. In addition, the recent establishment of the Children's Specialty Care Center in Lexington MA is expected to contribute to the growth of clinic visits over the next several years. Since 1980, emergency room visits have declined by 18% for a complex set of reasons -- reflecting demographic changes, the growth of managed care, increased enrollment in CCHP, and changes in referral practices.
- o Research expenditures have increased by 123% since 1979 and in 1990 totalled \$30.8 million. Adjusted for inflation, this represents a real increase of approximately 20% in research volume.
- o Overall employment, not including volunteers, has increased by 541 since 1980, or approximately 10%. Virtually all of this growth is accounted for by the increase in nursing and house staff.
- o These changes have increased the needs for on-campus parking. While clinic visits have increased dramatically, the number of visitor parking spaces has

remained virtually constant since 1980. Over the same period, parking available for employees has increased by 260 spaces, but employment has risen by 541 persons.

Children's service area continues to be quite dispersed. Approximately 25% of the patients admitted to Children's are from out of state. Children's admissions account for 43% of all out of state pediatrics patients admitted to Massachusetts hospitals, reflecting the institution's important role as a center of excellence in tertiary care. Among Massachusetts residents who are hospitalized, Children's cares for 45% of all City of Boston pediatric cases, 29% of the cases from the western suburbs, 28% the cases from the northern suburbs, 12% of the cases from the south shore, 5% of the cases from the Worcester area and 3% of the cases from western Massachusetts. Thus, the service area is slightly weighted towards the north and west, as well as the significant role of serving almost half of Boston city residents admitted to hospitals for pediatric care.

Over the next decade, several key trends will challenge the demands for and methods of delivering programs. These include:

- o A relatively stable pediatric population, in contrast to the declining numbers over the past decade. At the same time, the locations of those to be served are increasingly dispersed, with the majority of growth occurring in the inner city and the far suburbs. Approximately 40% of all metropolitan area patients today reside in the City of Boston, with the balance almost equally divided between other cities and towns within Rte. 128 and between Rtes. 128 and 495.
- o A levelling off of the average length of stay of patients in the hospital after a significant decline over the 1980's in response to pressures to reduce health care costs. Average length of stay can, however, be misleading since it represents the mean of widely varied individual stays. Changes are the result of reduction of pre-operative stays, changes in practice, and a shifting mix of cases.
- o Continued trends towards managed care programs, and increasing price competition for provision of all but the most specialized programs.
- o Possible shifts in reimbursement formulas which will disadvantage teaching hospitals in their provision of primary care and may limit the ability of institutions to pass through capital costs.
- o The recognition of high infant mortality rates, additional unfilled needs for pediatric care in inner city communities, and needs for the treatment of AIDS and other relatively new disorders.
- o Increased competition for research grants.

- o Distributed computers and local area networks will make it increasingly possible to communicate among several sites at which services are offered.

I.4 FACILITY CONTEXT

Over the past five years, Children's has undertaken a major program of replacing and expanding critical facilities, some of which had not been improved for several decades. The new facilities include:

- o Completion of a new Main Building for inpatient care, which expanded inpatient care space from 85,000 net sq. ft. (nsf) to 195,000 nsf, and several key diagnostic and support departments, for a total new building of 285,000 nsf.
- o Renovation of 215,000 nsf of space including spaces vacated by the move of inpatient uses to the new Main Building, to expand and modernize more than 20 departments and services.
- o Expansion of Enders, the primary facility for research, through the addition of 142,500 nsf of modern biomedical laboratory facilities, new research offices and an auditorium. In addition, systems and spaces in the original Enders structure are being upgraded to match the standards of the new facility.
- o Creation of a new home for the Comprehensive Child Health Program and Pediatric Group Associates through the renovation of 9500 nsf of space in Hunnewell.
- o Expansion of north campus parking facilities through the leasing (jointly with Beth Israel Hospital) of Alumnae Hall and its associated parking area from Emmanuel College and the construction of a two story parking deck. This facility provides approximately 200 spaces for physicians and critical employees near campus (and accommodates 200 Beth Israel employees), allowing the Blackfan garage to be dedicated during peak hours to patient and visitor parking.
- o Acquisition of a 1.5 acre surface parking lot on Beacon Street, used as a satellite parking facility for Children's employees.
- o Creation of an institutionally subsidized child care center of approximately 2,800 nsf for 42 children of Children's Hospital employees in leased space in St. Ann's Hall on the Emmanuel College campus.
- o Relocation of components of the finance department and other administrative functions into 15,700 nsf of leased space at 333 Longwood.

- o Creation of the first satellite Children's Specialty Care Center in leased space in Lexington MA.
- o Construction of an addition to Children's Extended Care Center (CECC) in Groton MA, including classrooms and therapy spaces.
- o Acquisition of 1295 Boylston Street (Merchant's Tire Building) and its proposed conversion to community oriented retail and back office uses.

Over the same period, the Ruggles Street lot leased from Wentworth Institute of Technology was returned to that institution, resulting in the loss of an important surface parking area. Replacement spaces have been leased in the Museum of Fine Arts garage, but there is uncertainty over how long these spaces will be available.

With this active program of improving and expanding spaces, two of the three important sectors of Children's operations -- inpatient care and research -- are largely able to be conducted in new or freshly renovated space. Nonetheless, there remain several important needs for the decade ahead:

- o While there have been some improvements to ambulatory care spaces, they remain largely untouched. Fegan, the primary facility for outpatient services, is overcrowded and the elevators are inadequate to serve the numbers of people using them. The entrance for ambulatory patients is circuitous, requiring use of the main lobby.
- o Program space for CCHP will be improved substantially when currently scheduled improvements are completed. However, Martha Eliot Health Center, currently operating in space provided by the Boston Housing Authority at Bromley Heath in Jamaica Plain, remains in need of upgrading or replacement.
- o Despite the expansion of parking on the Emmanuel site to free up space in the Blackfan Garage, there remains a critical shortage of parking for patients and visitors. The Blackfan Garage, the main facility for patients and visitors, has a limited life and needs to be replaced by 1995.
- o A number of existing spaces need to be upgraded, with corresponding improvements to mechanical and service systems. Included are the intensive care units, intensive care outpatient services, the ambulatory test center, dialysis and pulmonary care units, the original portion of Enders, and the completion of improvements to Farley for clinical support services.
- o In order to make room for internal expansion and to create sites for new structures, a program will need to be mounted to move off campus administrative spaces and services which do not need to be in close contact with patients.

1.5 PROJECTIONS OF FUTURE OPERATIONS

As a basis for projecting the need for space and facilities at Children's over the next decade, we make the following assumptions about the level of activities that will need to be accommodated:

PROJECTIONS OF ACTIVITIES¹

ACTIVITY	(YEAR)	1980	1985	1990	1992	1997	2002
Discharges (000)		13.4	13.8	15.9	16.3	17.3	18.7 ²
Surgical volume(000)		9.9	11.5	12.8	13.6	15.8	19.5 ³
Inpatient Surgery		7.0	7.9	7.7	7.6	7.4	8.4 ⁴
Outpatient Surgery		2.9	3.6	5.1	6.0	8.4	11.1
Clinic Visits (000)		149.5	160.2	186.9	195.2	208.9	238.0
Ambulatory Clinics			108.4	120.3	123.5	129.7	150.5 ⁵
CCHP			20.5	24.1	24.8	27.4	30.3 ⁶

¹ Source of data except as noted otherwise -- 1980, 1985 and 1990 figures compiled by Facility Planning Office from operational reports, projections for 1992, 1997 and 2002 based on assumptions as noted.

² Assumes addition of 62 beds between 1998-2002, with 82% occupancy level and average stay of 6.2 days.

³ Assumes 3% growth per year

⁴ Assumes 0.5% reduction per year from 1990-7, 2% annual increases thereafter as new surgical facilities are completed.

⁵ Assumes 1% growth per year through 1997 when ambulatory space expansion is projected to be completed, then 3% annual growth thereafter until its capacity is reached

⁶ Assumes 2% average annual growth in visits

PROJECTIONS OF ACTIVITIES (cont.)

	1980	1985	1990	1992	1997	2002
Martha Eliot Health Ctr		31.3	42.5	46.9	51.8	57.2 ⁷
<u>Emergency Room Visits</u>	<u>58.6</u>	<u>45.9</u>	<u>47.7</u>	<u>50.2</u>	<u>52.8</u>	<u>55.5⁸</u>
Satellite Specialty Care Clinics	--	--	4.0	7.5	16.0	20.0
Lexington	--	--	4.0	7.5	12.0	12.0
New Facilities ⁹	--	--	--	--	4.0	8.0
Research Expenditures						
Actual (\$million) ¹⁰	13.8 ¹¹	22.3	30.8	32.0	47.0	69.1
Constant 1990 \$ ¹²	25.5	28.1	30.8	32.0	35.3	39.0

⁷ Assumes 2% average annual growth in visits and improved space in 1992-7, until reaching capacity

⁸ Assumes 1% average annual growth in visits

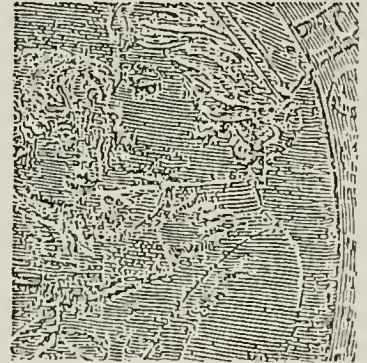
⁹ Assumes second facility in operation by 1997

¹⁰ Research revenues projected to grow at 2% above assumed 6% inflation rate from 1992-2002

¹¹ 1979 research income

¹² Deflated by historical inflation rates for 1979-90. Future research volumes projected to grow by 2% above inflation.

4



2 Proposed Projects 1992-7, 1998-2002

2.0 PROPOSED PROJECTS 1992-7, 1998-2002

2.1 FACILITY STRATEGY

Over the next five years (1992-7), the facility objectives shall be:

1. To resolve current deficiencies in patient parking and access needs
2. To improve and expand ambulatory care facilities on the main campus and provide adequate parking for these facilities
3. To improve the facilities available for Martha Eliot Health Center
4. To expand specialty clinic services in suburban locations
5. To complete the modernization of research space on campus
6. To provide for internal expansion on the main campus, and to accommodate new technologies, by moving a significant number of personnel and programs not requiring patient contact to off campus locations
7. To continue to modernize space, systems and environments so as to improve the overall quality of space available.
8. To leave open the option of integration of Judge Baker programs with Children's programs in an accessible and visible location on campus.

Five to ten years into the future (from 1998-2002), the facility objectives shall be:

1. To further improve the capacity to serve in-patients on the main campus
2. To create or participate in developing a dedicated parking facility off campus to consolidate employee satellite parking in one major location
3. To improve existing ambulatory care facilities or relocate them into additional new space
4. To continue to modernize space, systems and environments so as to deter obsolescence of facilities

2.2 SPECIFIC FACILITY NEEDS

A number of construction and facility upgrading projects are required over the next five years (1992-7) if the objectives are to be met:

1. Replacement of the Blackfan Garage with a larger structure to satisfy needs of patients and visitors. Structural assessments of the facility indicate that its life cannot be assured beyond 1995.
2. To enable the parking project to go forward, relocation of approximately 50,000 sq.ft. of administrative and support space currently on campus to the recently acquired building at 1295 Boylston St.
3. Creation of a new ambulatory care building which might contain (pending detailed programming and feasibility studies):
 - o expanded patient care space
 - o diagnostic services to support ambulatory care
 - o office space
 - o possibly some programs of Judge Baker Children's Center
 - o day treatment facilities
 - o meeting and conference spaces
 - o day care center

The new facility should be directly linked to parking to minimize circulation and traffic congestion. Indoor links to existing ambulatory care space and diagnostic support facilities are also important. Relocation of the psychiatric beds, currently in Judge Baker's structure, may also need to be planned.

4. Renovation or replacement of Martha Eliot Health Center. The facility needs to be substantially expanded and provided with improved spaces either in its current location or on an adjacent site.
5. Creation of a second satellite specialty clinic in a suburban location.

6. Completion of the program of modernizing HVAC systems in the original part of Enders, and continuation of the vigorous program of sprinklering spaces, improving building systems and repairing and replacing windows and roofs.

For the period 1998-2002, the following building and improvement projects are being evaluated, in response to the facility objectives:

1. Vertical expansion of inpatient facilities to increase bed capacity and improve intensive care spaces.
2. Horizontal expansion of inpatient facilities to expand radiology and surgical operating capacity.
3. Creation of a new entrance to the current ambulatory care facilities in Fegan and a weather protected link to the new ambulatory care facilities, or alternatively relocation of the balance of ambulatory care spaces to the area north of Longwood.
4. Improving the main entrance and the street level link from parking areas.
5. Construction of a new satellite parking facility to consolidate Children's off-site parking.

2.3 PROPOSED BUILDING PROJECTS

This master plan proposes, over the next five years, one major building on the main campus, and three projects for facilities located elsewhere. On the main campus, demolition of Gardner and the Blackfan Garage are proposed. They will be replaced by new structures straddling Blackfan Street accommodating:

- o a new ambulatory care center of approximately 180,000 gsf with 400 spaces of parking located below grade.
- o improved patient and visitor parking -- replacing the 650 licensed spaces currently on the site.

The projects are a response to the two most urgent needs of Children's hospital, and will complete the cycle of renewing the institution's physical facilities begun in the eighties with the creation of a new Main Building and the doubling of research space in Enders.

The site configuration for this project is illustrated in Figure 2-1 which follows, and the project is described in greater detail in sections 5 and 6 of this plan.

FIGURE 2-1 PLAN OF MAIN CAMPUS NORTH DEVELOPMENT

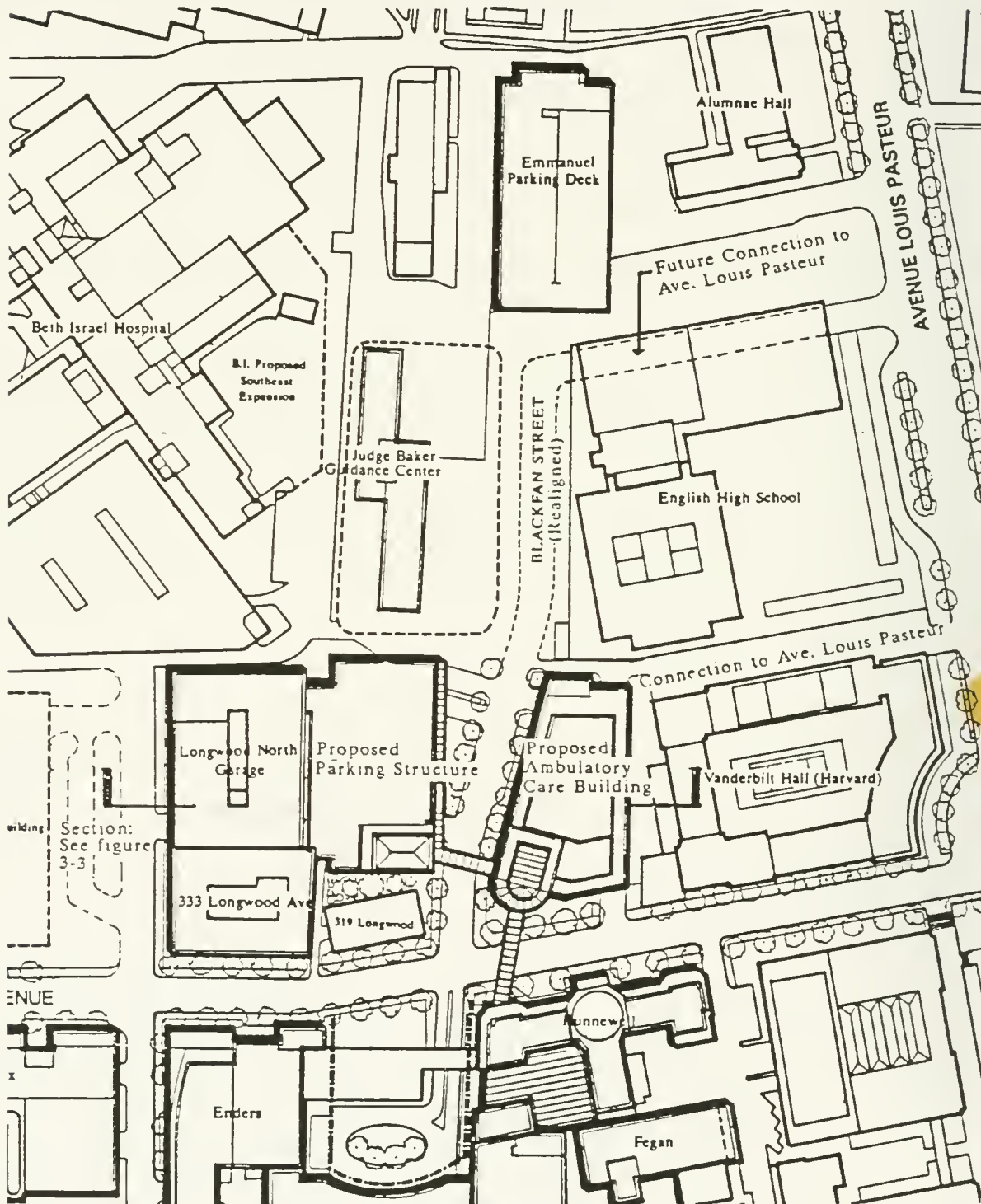


FIGURE 2-2 VIEW OF NORTH CAMPUS DEVELOPMENT



Beyond the main campus, the plan also proposes the improvement or replacement of the Martha Eliot Health Center to allow Children's to continue to expand its services to residents of Boston.

Over the next five years, a leased structure will be identified in a suburban area for creation of a second satellite Specialty Care Center, building upon the successful experience with the first center created in Lexington.

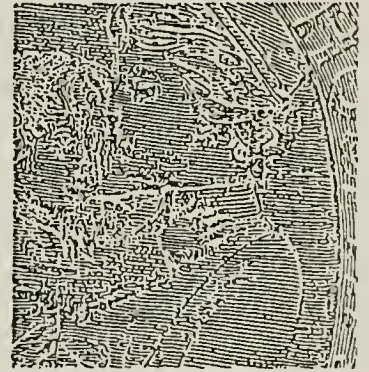
The plans for the main campus also assume the conversion of 1295 Boylston Street by Children's Medical Center, to allow approximately 50,000 sf of activities currently located in Gardner House and other locations on the Main Campus to be relocated off-campus.

2.4 REGULATORY PROPOSAL

The main campus south of Longwood Avenue was mapped as Planned Development Area by the Boston Zoning Commission in 1987. It will need to be amended to provide for the horizontal and vertical expansion of the Main Building.

Since PDA's cannot cross public streets, we are proposing to create a second PDA for the area north of Longwood Avenue, which would permit the Ambulatory Care Building, the Patient and Visitor Parking project and the eventual space to be constructed over the parking facility to proceed without separate regulatory approval. Design of the structures will, of course, be subject to design review by the BRA.

The development proposed as part of this master plan is consistent with the intentions of the proposed institutional zoning for the Longwood Medical Area currently under discussion.



3 Public Benefits of Children's Plans and Programs

3.0 BENEFITS OF CHILDREN'S PLANS AND PROGRAMS

3.1 DIRECT PUBLIC BENEFITS

Children's Hospital has for many years been ranked the finest pediatric care facility in the U.S., and it has the largest pediatric research and education program in the country. Patients are referred to Children's from around the world, and the physicians it educates are the leaders of the profession in the U.S. and abroad.

Children's is also a unique **local institution**, serving the community in which it is set. It is the largest provider of pediatric services to local residents. Many of its patients are from low income households. No child is ever refused care at Children's, regardless of ability to pay.

Children's offers a complete range of health care services for patients from birth through age 21. the hospital records approximately 16,000 inpatient admissions each year. More than one-third of these hospital stays are paid for by Medicaid, making Children's the second largest provider of health care to low-income residents in Massachusetts.

The approximately 100 ambulatory clinics and services at Children's handle more than 245,000 patient visits annually. Medicaid beneficiaries constitute one-third of these visits. Of the total number of ambulatory visits, almost 70,000 are for primary care services, 50% of which are provided to Medicaid beneficiaries. Of the more than 50,000 patients treated annually in the emergency room -- by far the largest such pediatric service in the Boston Metropolitan area -- 34% are supported by Medicaid.

Health Care Programs Addressed to Boston Residents

As the local pediatrician for tens of thousands of Boston's children, Children's Hospital provides primary care services through a number of programs. The largest primary care programs, the Comprehensive Child Health Program (CCHP) and Pediatric Group Associates (PGA), will soon be housed in a new Primary Care Center. Children's is renovating 9,500 sf in the Hunnewell Building for this purpose at a cost of over \$1 million. This new center will accommodate over 35,000 visits each year.

Along with CCHP and PGA, Children's provides a wide range of services for Boston's children through a number of innovative programs:

- o **Martha Eliot Health Center (MEHC).** Located at the Bromley Heath housing project in Jamaica Plain, MEHC is a family-oriented community health center serving both adults and children. Over 40% of its 45,000 visits each year are

from Medicaid patients. Primary care is offered in pediatrics, adolescent medicine, adult medicine, obstetrics, and gynecology. Services are also provided in dentistry, hearing and speech, nutrition, optometry, podiatry and a range of social and counseling services. Martha Eliot supports a wide range of outreach efforts on prenatal care, drug abuse prevention, treatment and care, and education for people with HIV infection, together accounting for 15,000 visits each year. Programs managed by Martha Eliot include:

- o **Healthy Baby** -- a program that identifies high-risk pregnant women through home visits and provides them with education and prenatal care.
- o **Healthy Child** -- a follow-up program that provides medical care, counseling and social services to inner city families.
- o **The Comprehensive Child Health Program (CCHP).** Located on the main campus, CCHP records approximately 25,000 visits annually, of which 55% are from Medicaid patients. It addresses primary health care needs of infants and children by providing services which include immunizations, social services, and testing for lead poisoning, tuberculosis, anemia, sickle cell disease and vision and hearing deficiencies. Several specialty programs operate within CCHP:
 - o **Growth and Nutrition Program** -- provides care to children who are severely under weight. The program also provides outreach to assist malnourished and non-English speaking children in Boston neighborhoods.
 - o **Lead and Toxicology Program** -- treats children with suspected or known toxic exposure to occupational and environmental poisons.
 - o **Young Parents Program** -- provides comprehensive and integrated medical care, social services and health education to adolescent mothers and their children.
 - o **Healthy Woman** -- an outreach program, it aims to reduce infant mortality by educating the public about the importance of prenatal care.
 - o **Project CHILD (Community Health Initiatives Against Learning Disabilities)** -- supports families of preschool children in the areas of health, school performance and placement, and parental advocacy. The program also offers developmental and educational evaluations, medical screening, developmentally based enrichment activities, and parent support groups.
 - o **Project Protection** -- provides education and counselling for young people and adults at risk of contracting AIDS or HIV infection.

- o **Entre Amigas** -- a prevention and education program designed to serve Latino women who are HIV positive and/or at high risk of contracting AIDS.
- o **Project Better Health** -- provides ongoing, comprehensive and episodic health care to homeless children living in shelters, hotels and motels in Boston, Malden and Revere.
- o **Project Kidstart** -- offers qualitative assessments of literacy, language and social competency skills to homeless children between 3 and 5 years of age.
- o **Pediatric Group Associates (PGA).** PGA is a general pediatrics practice and residency continuity program that provides general pediatric consultation and continuing care, and coordinates laboratory and radiographic studies and referrals to subspecialists. Residents in this program serve as primary physicians to more than 3,500 children in New England, providing services from routine check-ups to complicated follow-up care associated with chronic illnesses such as asthma, diabetes, and AIDS. Affiliated with PGA is the Spanish Consultation Program, which offers comprehensive diagnostic and consultation services to Spanish speaking families. Of the 8,200 annual visits, almost 50% are from Medicaid patients.
- o **Massachusetts Poison Control Center.** Children's houses and operates this facility which serves state-wide needs in the identification and control of toxic substances, especially those which impact children.
- o **Advocacy for Women and Kids in Emergencies (AWAKE) Program.** AWAKE is a unique model of mother-child public health intervention in the causes of family violence. Begun at Children's Hospital in 1986, it is the first program in the nation in a pediatric setting providing dual advocacy for both battered women and their abused children. Since its inception, the program has provided advocacy and consultation to over 500 women and 600 children. A recent follow-up study revealed that at 15 months after referral, 82% of children were safe and with their mothers, 11% were with both parents, and only 2% were in foster placement.
- o **Life Cycle Coalition for Better Health.** This coalition is a multicultural community organization comprising Jamaica Plain and Roxbury communities, MEHC, and the Boston Foundation, with a mission to improve infant mortality rates and the health of infants and parents in these communities. Children's was instrumental in putting together the coalition and providing and attracting funding for it. One of the coalition's major accomplishments to date is the creation of a community educators program in which women from the community are being

trained to go into the community and educate residents about the infant mortality problem and where help can be obtained.

- o **Healthy Community and Child Initiative.** This program is Children's major contribution to the city-wide effort to combat infant mortality. To provide continuity of health services and follow-up care for children during their first year of life, the hospital has constituted a multicultural and multilingual team who help arrange a systematic transition from the birth hospital to home and into the appropriate pediatric health care services. For this program, Children's is focusing on births in Beth Israel and Brigham and Women's hospitals, which together constitute 68% of the births to Jamaica Plain/Mission Hill residents, 54% of Roxbury residents and 36% of North Dorchester residents.
- o **Bridge Over Troubled Waters (The Bridge, Inc.).** This organization serves each year an average of 4000 runaway and other youth on the streets of Boston with nowhere else to turn. Children's provides a wide variety of support for many of the Bridge services, including providing an extensive volunteer base of physicians, nurse practitioners and registered nurses to the mobile medical van; helping staff the Bridge nurse clinic, and providing a weekly clinic for runaway youth and HIV-infected adolescents.
- o **Mission Hill Dental Outreach Program.** For the past 14 years, Children's has provided a full range of dental services to the students of the Farragut and Maurice J. Tobin Schools. Children's also provides free transportation for the students to attend the 49 clinical sessions held each year.
- o **Children's Hospital AIDS Program (CHAP) outreach efforts.** The outreach education arm of CHAP is staffed with 10 professional outreach workers who canvass the streets of downtown Boston to educate young people about alternatives to their street-based lifestyles. Nutrition, homelessness and medical care are discussed as well as high risk behaviors such as drug use and unprotected sexual activity. Along with individual counselling, a drop-in center is operated once a week offering free meals and a forum for discussion about health and lifestyle issues.
- o **Project School Care.** Begun in 1986, Project School Care makes it possible for technology-dependent children to return to school and become fully integrated into the school program. By educating and training the many people who come in contact with the child in the course of the day -- school nurses, teachers, bus drivers, cafeteria staff, and administrators -- Children's Hospital physicians and nurses facilitate the transfer of care from the hospital to the community. Project School Care has consulted in the care of nearly 230 children throughout Massachusetts. In Boston alone, 130 children have benefitted from this program.

- o **Other Programs.** Other Children's Hospital programs, too numerous to mention serve directly the Boston School Department (preventative services, health education to teenagers, and supervision of school health services), community health needs and the needs of children in institutions.

Community Services

- o **Child Care.** Children's Hospital is meeting the child care needs of its employees and some neighborhood residents through the Children's Hospital Child Care Center (CHCCC). Opened in 1990, the center currently accommodates 42 children from 40 families. All hospital residents are eligible to be served, with any additional spaces available for neighborhood residents. Of the 40 families currently served by the center, 17 are from Boston including 9 from the Mission Hill, Fenway and Jamaica Plain neighborhoods. The 2 children enrolled whose parents are not Children's employees are from Jamaica Plain. Overall, 17 families receive tuition reimbursement from Children's Hospital, 8 of whom are from Boston including 6 from the Mission Hill, Fenway and Jamaica Plain neighborhoods.
- o **Toy Donations.** For the past 20 years, Children's Hospital has donated surplus toys to community groups in the Mission Hill, Fenway, and Jamaica Plain neighborhoods. During their Christmas and holiday parties, these community groups give these toys to needy children. Last year, Children's donated over 500 toys.
- o **Security Services.** The Longwood Medical Area Security Patrol provides security service for the public from the hours of 4:00 pm to 8:00 am. Children's Hospital contributes \$34,000 annually to this joint effort to help make the area a safe place to work and live.
- o **Longwood Medical Area/Mission Hill/Fenway Food Project.** Children's Hospital is proud to participate in this consortium of 22 institutional and community groups that works to provide emergency food assistance and nutrition program support to individuals and organizations in the Mission Hill and Fenway neighborhoods. The Food Project supports the ABCD Parker Hill/Fenway Food Pantry, the Tobin Community School's Back to School Program, the Warwick House Food Pantry, and Project LIFE. The Food Project also provides transportation assistance and outreach services to local organizations.
- o **Employee Charitable Donations.** Children's employees donate their time and money to a variety of charitable organizations including the Children's Hospital One for All Fund. In 1990, they donated more than \$40,000 to the fund which will benefit over 70 organizations. Included among them are: Bridge Over Troubled Waters, Big Sister Association, Carol DiMaiti Stuart Scholarship Fund, Colonel Daniel Marr Boys and Girls Club, Mission Possible, Hospice at Mission

Hill, Longwood Medical Area/Mission Hill/Fenway Food Project, Pine Street Inn, Por Cristo, Project Bread, and Rosie's Place.

Employment Programs

Approximately 52% of Children's Hospital employees are residents of Boston. In addition Children's has aggressive programs to train and employ Boston residents and individuals with disabilities in health service roles:

- o **Children's Hospital/Fenway Vocational Program.** The program, started in 1989 using job training linkage money, combines classroom instruction with on-the-job training annually for approximately 40 high school juniors and seniors who have not performed well in a traditional school setting. Those who successfully complete the program are guaranteed a full-time position at Children's or assistance in finding similar work at another institution when they graduate from high school.
- o **Training and Research Institute for People With Disabilities.** This program provides on-the-job training, career guidance, support and counseling to adults with a variety of physical and developmental disabilities. Over the past decade, ongoing efforts by the institute staff have resulted in the placement of more than 650 people with disabilities in competitive, transitional, and supported employment, in departments at Children's and elsewhere.

In addition, Children's participates through the **Private Industry Council summer jobs program** aimed at Boston youth. Children's Human Resource Department participates in the **Opportunities in Boston** program, a collaborative effort to attract minority professionals to the city. At the **Hubert Humphrey Occupational Resource Center**, Children's provides school year and summer jobs, shadowing experiences, and funding to help students participate in statewide competitions. Through the **Boston Technical Center, Oficina Hispana**, Children's Human Resource Department conducts interviewing skills training for their trainees.

Direct Contributions to the Boston Economy

Children's Hospital is an important component of the Boston economy, contributing salaries to residents located in the city, goods and services purchased from firms and individuals in the city, and construction employment. While it is difficult to estimate the economic contributions with any certainty, the following provide a general indication:

- o **Earnings of employees.** Currently approximately 2430 Children's Hospital employees reside in Boston. At an average payroll per employee of \$26,000 plus benefits of \$10,000, (sources: U.S. Dept. of Commerce, Massachusetts Dept. of

Education and Training, 1990; assumes Children's wage rates are average for industry in Boston area), salaries and benefits paid to Boston residents by Children's Hospital totalled approximately \$87.5 million.

- o **Purchases of goods and services.** Hospital records indicate that approximately 38 million was paid in 1990 to vendors with a Boston address. This figure may underestimate the actual contribution to the Boston economy, since several large expenditures are recorded for other cities but actually represent services rendered in Boston (eg: purchase of steam, chilled water and electricity from MATEP is recorded as being paid to a Cambridge-based organization, Harvard University).

Thus, well over \$135 million is injected into the Boston economy each year by Children's Hospital.

Taxes

Children's Medical Center currently pays more than \$1.4 million per year in property taxes to the City of Boston on properties it owns, including 454 Brookline Avenue, The Longwood Galleria and Inn, the residential tower at Longwood and Brookline, the land used for parking at 819 Beacon Street, 109 Brookline Avenue, 21-27 Burlington Avenue, 1295 Boylston Street and its 50% interest in 333 Longwood and the Longwood North garage.

3.2 INDIRECT BENEFITS

Expenditures by Children's Hospital in Boston have a multiplier effect on the local economy. It is estimated that each dollar injected into the economy stimulates at least two additional dollars of expenditures, as residents or businesses hired by an institution make further purchases, thereby supporting additional jobs and enterprises. Thus, the overall effect on the City of Boston economy is in excess of \$400 million.

Construction expenditures over the next decade will also have a multiplier effect on the economy of the City of Boston. The capital expenditures for the projects proposed for Boston over the next five years should total approximately \$ 81 million. In addition, Children's Hospital annual capital expenditures for renovations, upgrading and purchasing of equipment should average approximately \$25 million per year, as they have for the past several years. Assuming that one-half of the wages go to City of Boston residents, the target set in City ordinances, and that one half of the materials are ordered through Boston companies, the overall effect of Children's construction over the five years should be in excess of \$ 300 million.

At least as important is the impact of Children's health services on the quality of life in the City of Boston. Not only are a substantial proportion of the institution's resources devoted to addressing the needs of the most vulnerable populations, but the tradition of excellence of Children's is a magnet for attracting some of the finest pediatric physicians and medical staff to the city, and is one of many reasons for Boston's reputation as the center of health care innovation.

3.3 PROJECTED EMPLOYMENT GROWTH

With the expanded activities made possible by the proposed Patient Parking/Ambulatory Care Building, we project that employment may need to rise by up to 300 positions. At an average salary (with benefits) of \$36,000, this will mean an additional \$10.8 million paid annually in salaries to employees. If current estimates prevail, over \$5 million will represent income to Boston residents.

If a decision is made to expand the inpatient capacity of the hospital over the next 5-10 years, employment levels will need to increase considerably beyond the new level.

3.4 PROJECTED CONSTRUCTION EMPLOYMENT

The two projects proposed north of Longwood Avenue will represent a stable source of construction jobs for a five year period over which the construction is phased. It is estimated that approximately 2050 person months of construction labor will be required for the Patient and Visitor Parking project and 2850 person months of labor will be required for the Ambulatory Care Building. Together these will represent almost 410 person years of construction employment. While work forces will vary over the life of the project, the forces will peak at approximately 130 employees during the construction of the Ambulatory Care Building.

Construction employment will amount to at least \$25 million in construction wages for the two projects. Based on past experience, approximately 50% of these employees will reside in Boston.

Over the next 10 years, routine expenditures by Children's Hospital on renovations of space and improvements to building systems will probably average \$20 million per year, or \$200 million over the decade. On average, 60% of this amount will probably constitute wages, or an average of \$12 million per year.

3.5 JOBS LINKAGE CONTRIBUTIONS

The projects proposed in this master plan should result in approximately \$80,000 in jobs linkage funds. Children's proposes to apply these funds to the continuation of its highly successful job training program, the Children's/Fenway Vocational Program.

3.6 PROJECTED HOUSING IMPACTS

No housing will be displaced by projects included in this master plan.

Currently, approximately 52% of Children's employees reside in the City of Boston. If the same pattern prevails, a maximum of 160 new employees might be expected to reside in Boston. Many of these individuals -- including those with lower incomes -- will undoubtedly already be Boston residents, since there is a large available pool of unemployed potential employees. A larger fraction of highly paid employees may move to the city as a result of their employment at Children's.

Individuals seeking housing in Boston will range across the income spectrum, with most able to afford market rate housing. Rising vacancy rates and unsold units in many Boston neighborhoods mean that there are likely to be few additional units required to meet this demand.

The current employment profile at Children's Hospital is, as follows:

Medical, scientific, house staff	32%
Nursing staff	20%
Full time administrative and service	36%
Part time staff	12%

Among these groups, only a small fraction of the full time administrative and service staff, and part time staff are expected to have significant affordability problems in finding rental housing in Boston.

Thus, the increased demand for affordable (below market rate) rental housing as a result of expansion of Children's Hospital employment over the next five years might be, as follows:

Maximum number of new employees expecting to reside in Boston	160
--	-----

Number of households @ 1.3 employees/household	123
---	-----

Number rental housing units @ citywide average of approx. 50%	62
--	----

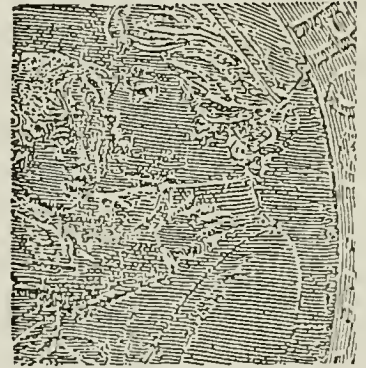
Possible fraction of employees requiring affordable units @ 15%	10
--	----

The increased demand for affordable rental units will be more than offset by new units created as a result of Children's recent and future linkage contributions.

3.7 RECENT AND FUTURE LINKAGE CONTRIBUTIONS

In 1987, Children's Hospital made a contribution of \$652,000 related to the construction of its new Main Building. The funds were applied to, and helped make possible the construction of, the 165 unit Back of the Hill housing project in Mission Hill. In 1990, as a result of the Enders expansion project, a contribution of \$155,000 of housing linkage funds was made to assist in the creation, by the Fenway Community Development Corporation, of single room occupancy housing at 57 Hemmenway Street. Both projects blended financial assistance from a number of sources, so it is difficult to identify precisely the number of housing units created as a result of Children's contributions. However, city-wide, the capital assistance required to make housing affordable averages approximately \$18,000 per unit. This suggests that Children's contributions represented the subsidy necessary to create approximately 45 housing units.

Over the next 5 years, if the Patient and Visitor Parking/Ambulatory Care Building proceeds, housing linkage contributions of approximately \$400,000 will be required. This could enable the creation of approximately 22 additional affordable housing units.



4 Existing Facilities

4.0 EXISTING FACILITIES

4.1 INVENTORY OF EXISTING SPACE

Children's Hospital currently occupies a total of 1,596,000 gross square feet (gsf) of space for its medical, research and educational programs. Of this space, 1,388,600 gsf is located on its main campus, south of Longwood Avenue, and 102,300 gsf on its main campus, north of Longwood Avenue. In other locations, Children's occupies 50,100 gsf in a building at 21-27 Burlington Avenue (owned by a subsidiary of Children's Medical Center), 22,000 gsf at Martha Eliot Health Center located on the site of the Bromley Heath public housing project, 26,500 gsf at Children's Extended Care Center in Groton, and 6,500 sq.ft. in the Specialty Care Center in Lexington. Of this total, all but the space in Judge Baker Children's Center (10,000 gsf) and the Lexington facility is in space owned by Children's Medical Center, or in which it has an interest.

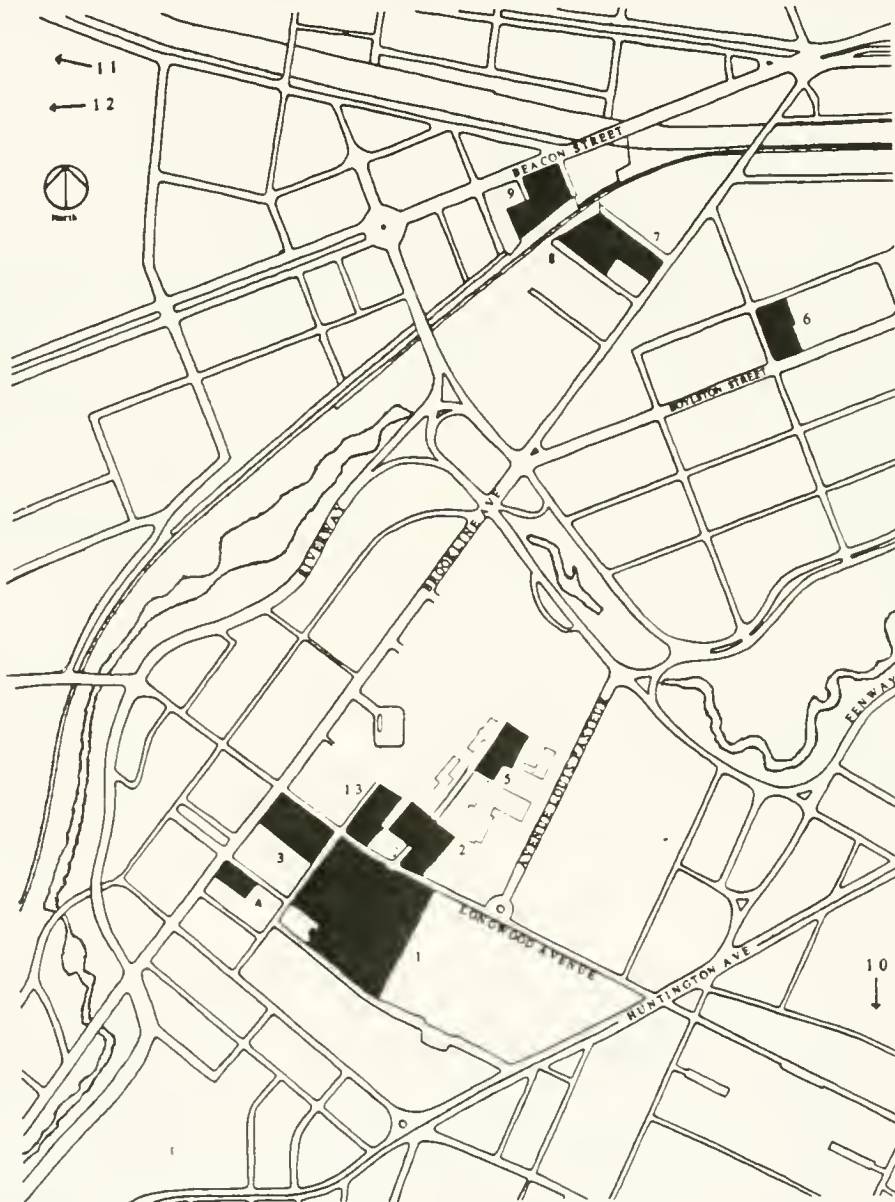
In addition to occupied spaces, Children's has a parking facility of 180,000 gsf on its north campus which accommodates approximately 550 cars (and is licensed for 652 cars), a half interest (with Beth Israel Hospital in the deck and surface lot on property leased from Emmanuel College, which accommodates 400 cars (200 assigned to Children's) and a half interest in the Longwood North Garage, with 495 spaces (of which 178 are assigned to Children's), serving tenants of 333 Longwood Avenue and the general public. In the Fenway, land owned by Children's Medical Center on Beacon Street provides remote parking for approximately 160 employees.

Children's Medical Center also owns a number of properties in Boston which it holds primarily for investment purposes, including the Longwood Galleria, the residential tower adjacent to the Galleria, 454 Brookline Avenue (a small medical office building), and 109 Brookline Avenue and 21-27 Burlington Street, adjoining loft structures leased to medical administration and office users. It has a half interest in 333 Longwood Avenue and the Longwood North parking facility. Recently it purchased 1295 Boylston Street (the Merchant's Tire Building) on Boylston Street in the Fenway and it is in the process of converting the structure into 98,600 gsf of retail and office space. Children's Medical Center pays property taxes on all of these properties.

Figure 4-3 which follows, details the full space inventory of Children's Hospital and Children's Medical Center properties in Boston.

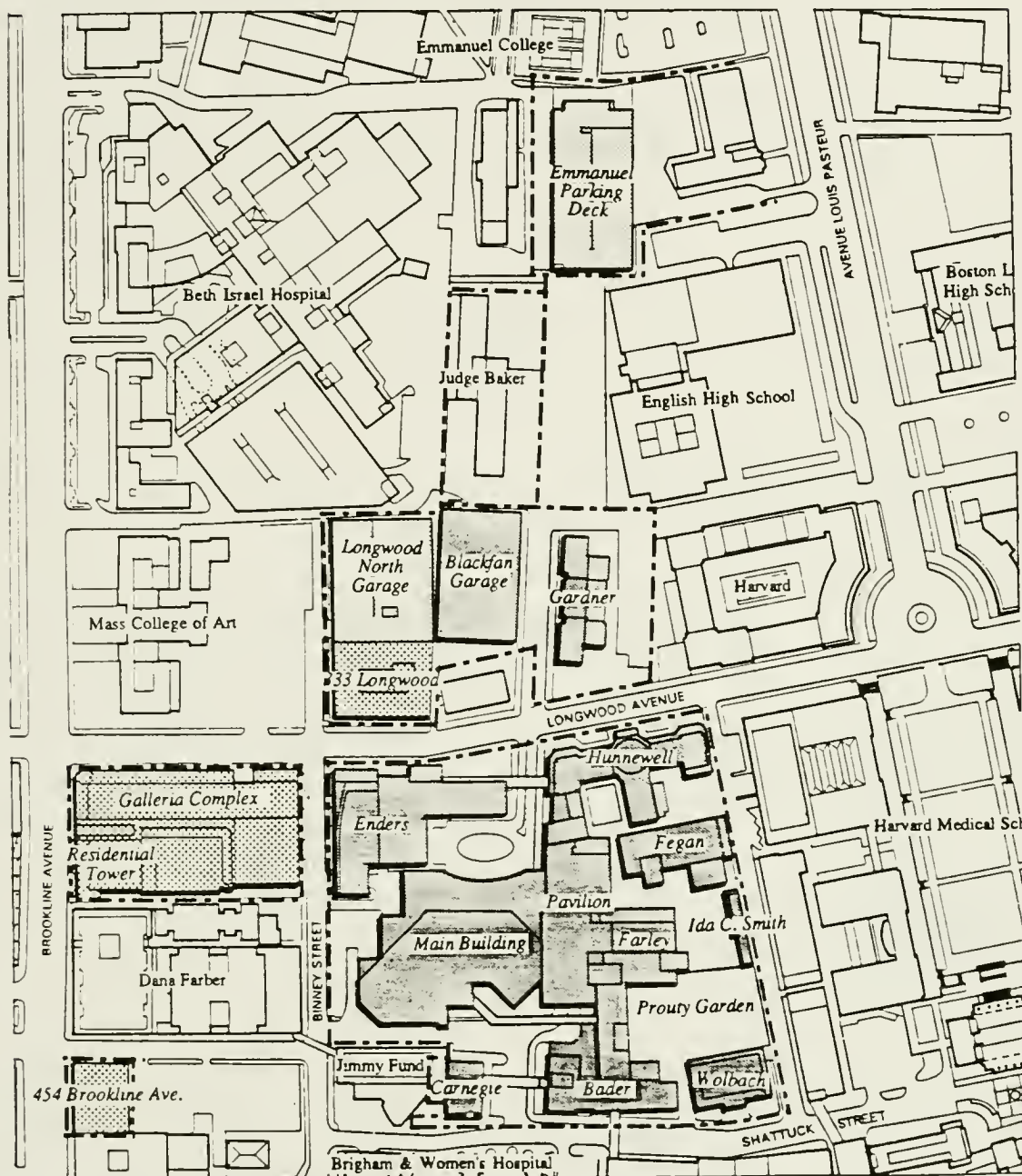
Appendix A also includes plans and details on each building and site owned, controlled or leased by Children's.

FIGURE 4-1 SITE LOCATIONS



- | | | |
|-------------------------------|--------------------------------|--|
| 1. Main Campus | 6. 1295 Boylston Street | 11. Children's Extended Care Center, Groton, MA |
| 2. North Campus | 7. 100 Brookline Avenue | 12. Lexington Specialty Care Center, Lexington, MA |
| 3. Galleria/Apartment Complex | 8. 21-27 Burlington Avenue | 13. 333 Longwood |
| 4. 454 Brookline Avenue | 9. Beacon Street Lot | |
| 5. Emmanuel Parking Facility | 10. Martha Eliot Health Center | |

FIGURE 4-2 MAIN CAMPUS BUILDINGS



LEGEND



Properties used for medical purposes



Investment properties



Joint - use garages

Building:	Building Use:	Status: (Own, own jointly, lease, invest- ment)	Approx. Employment in Bldg.:	Year Built:	Structural Type:	Gross Bldg. Area:	Site Area:	No. of Floors:	Condition:
MAIN CAMPUS:									
Hunnewell	Outpatient Clinics, Physicians Offices, Offices	Own	410	1914	Steel/ Masonry	123,000		5 & Bsmt	Physically sound, not fully code compliant, small space limit use.
Fegan Basement	Support Services	Own	230	1966	Concrete	68,240		2 below grade	Gd. physical condition. Needs sprinkler system.
Fegan	Outpatient Clinics	Own	400	1966/67	Concrete	120,238		12	Gd. physical cond., needs in- proved elevators, sprinkler and fire alarm systems.
Ida C. Smith	Outpatient Clinic	Own	10	1924	Masonry	3,438	349,200= Total for Main Campus (PDA)	1	Fair physical cond., needs sprinkler, fire alarm system Handicapped access difficult
Wolbach	Administration	Own	120	1914	Steel/ Masonry	37,950		4	Gd struct. & phys. cond.
Bader	Offices, Physical Therapy, Dialysis, Nuclear Medicine	Own	100	1930	Concrete	30,888		6 & part. bsmt.	Adequate cond., some system need upgrading - inefficient for current use.
Bader (East)	Labs/Office	Own	180	1930/50	Concrete Frame	56,000		7 & bsmt.	Gd phys. cond., need to complete reuse fit-out
Farley	Clinical Labs, Surgery, Radiology, Cafeteria Support Services	Own	560	1956	Concrete/Steel	169,000		8 & 2 bsmt.	Good physical condition. Continue interior fit-out.
Pavilion	Surgery, Radiology, Intensive Care	Own	300	1974/79	Concrete/Steel	91,500		5 & 2 bsmt.	Good condition throughout
Carnegie	Research/Clinical Labs	Own	70	1907	Steel	19,967		4 & bsmt.	Poor condition physically & functionally. Needs major systems upgrade.
Main	Inpatient Units, Surg. Suite, Radiology, Lobby, Emergency Room	Own	1130	1987	Steel Frame	367,069		10 & bsmt.	Excellent condition
Enders	Research	Own	1100	1971, '80, '90	Concrete with Steel frame addition	382,912		14 & 2 bsmt.	Good condition. Ongoing major systems upgrade. Needs modernization of labs in original structure.

Building:	Building Use:	Status: (own, own jointly, lease, invest- ment)	Approx. Employ'm't in Bldg.:	Year Built:	Structural Type:	Gross Bldg. Area:	Site Area:	No. of Floors:	Condition:
MAIN CAMPUS: NORTH									
Gardner	Mixed	Own	250	1930	Steel Frame/ Masonry	78,300	79,500 total Gardner Hse & Blackfan Garage Site	8 & bsmt.	Poorly suited for medical office use, needs sprinkler
Blackfan Garage	Parking	Own	----	1964	Concrete	180,000		7	Very poor condition: must be demolished by 1995
333 Longwood Ave.	Rental Office, Retail	Inv,OJ	40	1984	Steel Frame	20,800	48,891 total 333 Longwood Ave & Garage	6 & bsmt.	Good condition throughout
Longwood North Garage	Parking	OJ	----	1984	Concrete	150,000		5 & bsmt	Good condition throughout
Judge Baker Children's Center	Inpatient Division	Lse	30			10,918	42,410	6	Adequate condition physically and functionally
Emmanuel Parking Structure	Parking	OJ	----	1990	Concrete	86,208	30,486 leased to Children's	3	Good condition.
Children's Day Care Center	Day Care	Lse	10	1990	Concrete	4,160	---	1	Excellent Condition
MAIN CAMPUS: WEST - INVESTMENT PROPERTIES									
Galleria Complex	Inn at Children's, Offices, Retail, Garage	Inv.	----	1968/87	Concrete/ Steel	190,000	62,518 total Galleria & Tower		Good condition throughout
Residential Tower	Residential	Inv.	----	1968	Concrete	122,500		25	Gd. cond., needs sprinkler
454 Brookline Ave.	Rental	Inv.	----	1930/50	Concrete	15,000	17,864	2	Adequate condition

Building:	Building Use:	Status: (own, own jointly, lease, invest- ment)	Approx. Employment in Bldg.:	Year Built:	Structural Type:	Gross Bldg. Area:	Site Area:	F.A.R.: Floors:	Condition:
SATELLITE SITES:									
Martha Eliot Health Center	Health Ctr.	Lse.	70	c.1950/ 1985		18,161		3	Inadequate size, inefficient spaces. Needs renovation of upper floors & syst. upgrading.
Children's Extended Care Center (Groton)	Pediatric, Nursing Home	Own	90	c.1950/ 1987	Steel Frame	24,000 4,000 admin.		2	Needs continued upgrading.
Children's Specialty Care Center (Lexington)	Outpatient Care	Lse.	10			Children's Occupancy: 7,200		1 Floor let to Childrn's	Good condition.
INVESTMENT PROPERTIES :									
109 Brookline Ave.	Rental	Inv.	----	c. 1915	Concrete	86,500	112,637 total for 109 & 21-27	3 & bsmt.	Good condition
21-27 Burlington Ave	Rental	Inv.	90	c. 1910	Concrete	210,080 50,610 used by Childrn's		5 & bsmt.	Good physical condition. Adaptable for its rental uses.
1295 Boylston	Office, Retail	Inv.	----	1923, 1983 (3d fl add) 1958 retail addition.	Concrete	98,560	47,350	3 & bsmt.	Proposed renovation to offices.
Beacon Street Lot	Surface Parking	Inv.	----	----	----	----	54,700	----	----

4.2 SPACE AND FACILITIES IN NEED OF IMPROVEMENT

Over the past decade, Children's has rebuilt its main inpatient facilities, doubled its research space and substantially improved many of its other structures. It invests annually approximately \$25 million, beyond large new building projects, in improving the building systems, making programmatic changes to the spaces it occupies, and acquiring new equipment to keep up to date. It has created a special Building Fund which dedicates a portion of its endowment, and a portion of depreciation, to the upgrading and replacement of its spaces and facilities.

Nonetheless, a number of the facilities remain in need of replacement or upgrading and several of the buildings are inadequate for the purposes they currently serve. Among the most urgent improvements needed are the following:

- o **Blackfan Garage** -- Structural concerns over the cantilevered floors began to be voiced approximately 10 years ago, and additional columns were added to assure its structural integrity. The garage is inspected at 6-month intervals. Engineers have indicated that they cannot assure it will remain safe for occupancy beyond 1995. There appears to be no cost effective method for repairing the structure, beyond the improvements already made. The structure must be replaced.
- o **Gardner** -- The small spaces of this former nurses residence are poorly suited for the office uses which currently occupy the building. The building lacks central air conditioning, needs substantial improvements to building systems, requires sprinklers and is in need of new windows. Its low floor to floor heights and small spaces mean that it is not efficient to continue to use this structure over the long term.
- o **Fegan** -- The building currently accommodates ambulatory care spaces. It's small floor sizes limit operations of many departments, and the inadequate overall size means that a number of floors are too densely occupied. The building has inadequate elevator capacity for the number of patients and employees it serves and it needs sprinklers and improved fire alarms. Additional ambulatory care space is an important need.
- o **Carnegie** -- The oldest building currently occupied, Carnegie is also one of the smallest which limits its usefulness. The building needs improvements to many of its building systems. While it currently accommodates research, clinical labs and a variety of support spaces, its main role in the future is likely to be as swing space to help facilitate moves. Since it is on a very small site and shares elevators with the adjacent Jimmy Fund Building owned by Dana Farber, it does not make sense to either invest heavily in improving the building, or to redevelop it independently of the Jimmy Fund Building.

Several other structures will need continued investments in upgrading to remain fully functioning facilities. **Hunnewell**, which recently received a new roof, exterior wall repair, and replacement windows, will need improvements to the interior. The original portion of **Enders** now needs to be renovated and air conditioned to match the quality of space in the new portions of the building. Some building systems remain to be upgraded in **Bader** and **Farley**. Many of these improvements are on the 10-year capital program; several have been deferred over the last few years because of fiscal constraints.

Off the main campus, the facilities of **Martha Eliot Health Center**, at the Bromley Heath public housing project, are seriously inadequate. Housed in a renovated low-rise housing building owned by the housing authority, spaces are too small for effective operation, corridors are too narrow to carry the traffic passing through them, finishes are poor and difficult to maintain, the building is not handicap accessible, and the overall size is too small for the large number of patients served. In 1985, Children's paid for an expansion of the building to increase ground floor waiting and reception areas. Over the years, Children's has renovated other spaces to make them as functional as possible, but the structure itself is the limiting factor, with inadequate dimensions and a size that is too small for the large number of patient visits it accommodates. Over the next 5 years there is a need to renovate the current structure substantially and add to it further, or construct a new facility on another site.

4.3 NEW SPACE NEEDS

With the opening of the Main Building and the expansion of Enders, the most pressing needs for patient care space and research projects have been met. Renovation of spaces in Bader and Farley, left vacant by the move to the new buildings, has improved clinical support facilities to meet most of the immediate needs.

Priorities now shift to the need for new patient and visitor parking facilities and improving ambulatory care spaces.

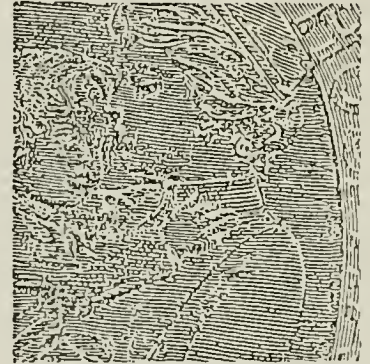
Studies are currently under way to define the long range program for ambulatory care space, and the method for delivering services. These studies will help determine the final space program and phasing of changes. Current estimates are that 100-140,000 gsf of new space may be required to reduce the density of use in current ambulatory care spaces, and provide for expansion of services in selected areas. Discussions are also under way with Judge Baker Childrens Center on integrating their programs more closely with those of Children's Hospital. The result could be a decision to relocate programs occupying up to 40,000 gsf of space in space provided by Children's. Thus, approximately 180,000 gsf of new space could be needed over the next 5 years.

Approximately 650 parking spaces are currently available for patients, visitors and key personnel (mainly second shift nurses and personnel who use the facility in off-peak

hours) in the Blackfan Garage and surface lots which are adjacent to it. The garage currently requires attendants to accommodate patients and visitors during peak hours (12-4 p.m.) and occupancy is limited by the difficulties of using the structure. The analysis of parking needs (see Section 7.0) suggests that there is currently a deficiency of approximately 200 spaces for patients and visitors. With the addition of new ambulatory care facilities, at least 200 more spaces will be required to accommodate the expanded number of patients. Thus, in replacing the Blackfan Garage and seeking to accommodate an expanded number of patients for ambulatory care, the parking supply needs to be expanded to a minimum of 1050 spaces.

If new ambulatory care and parking facilities are constructed on the sites of the current Blackfan Garage and Gardner, as the concept plan in the following section proposes, there will also be a need to relocate activities currently occupying approximately 78,000 gsf of space. Some of these need to remain on or close to the main campus, while other activities are candidates for relocation to other spaces off the main campus.

Beyond these immediate needs, on the 5 to 10 year horizon, it is possible to contemplate the need to expand both the patient capacity of the Main Building and the need to expand several departments including radiology and the surgical operating rooms. The Main Building was planned with both horizontal (to the west) and vertical expansion potential. Studies are currently under way to determine the appropriate size for these expansions and the timing and occupancy of new space.



5 Concept Plan

5.0 CONCEPT PLAN

5.1 OVERALL PLANNING OBJECTIVES

There are a number of important objectives in planning the continued development of Children's facilities:

- o Creating a system of sites and facilities that are identifiably part of Children's Medical Center.
- o Accommodating the desired growth of activities in a way that doesn't add to the congestion in the area and is sensitive to the concerns of the neighboring Mission Hill and Fenway communities.
- o Improving the experience of patients and visitors in using Children's facilities -- reducing congestion and waiting, providing adequate and safe parking, creating convenient and weather protected routes between parking and destinations, minimizing walking distances, creating a pathway system that is legible, well lit and well signed, locating information stations so that they are visible convenient, providing indoor and outdoor spaces for families to be together and as respites from the intensive program spaces.
- o Being fiscally responsible in assuring that facilities minimize total capital and operating costs
- o Creating new structures that are sensitive to their context, especially the scale and building forms along major important streets in the area.
- o Creating internal expansion potential on the Main Campus, by progressively relocating activities elsewhere that do not need to be at the physical center of the institution.
- o Organizing uses in a way that keeps open the possibility of expansion on to adjacent sites should they become available.
- o Reducing the traffic congestion on Longwood Avenue and other major access routes.
- o Developing future facilities so that they are consistent with design guidelines proposed by MASCO and future zoning of the Longwood Medical Area.

5.2 DEVELOPMENT CONCEPT

Much of the change to Children's environment over the next 5 years will occur in the area north of Longwood Avenue. The major building project includes:

- o **Patient and Visitor Parking** -- a 650 car replacement parking structure consisting of 4 levels below grade and 6 levels on ground and above is to be located on the site of the current Blackfan Garage, which will be demolished. The structure will be designed to link at each floor with the existing Longwood North parking garage to the west.
- o **Ambulatory Care Building** -- A new ambulatory care center is to be built on the current site of Gardner, providing up to 180,000 gsf of space on up to 9 levels above grade. Four levels of parking (400 spaces) are to be built below grade under the structure and under Blackfan Street, allowing the parking to function integrally with the new parking structure proposed above.

A bridge connection is proposed across Longwood Avenue to link the new ambulatory care building to the clinic spaces remaining in Fegan and the clinical support spaces on the Main Campus.

This project has been planned to allow Blackfan Street to be extended northward, then to be connected to Avenue Louis Pasteur via a new right-of-way. The new roadway might either cross the corner of Emmanuel College's property and pass through the area currently used for parking associated with the English High building, or might travel entirely on the English High site if the low elements are removed as a part of a redevelopment plan. In either circumstance, the proposed Children's projects have been configured to allow the Blackfan Street extension to be moved to the east so that it is directly adjacent to English High. Such a move would allow the creation of a development parcel with adequate depth on the Judge Baker site for future institutional use. Utilities currently under Blackfan Street will be relocated as part of the Ambulatory Care Building/underground parking project into a utility corridor, and will be relocated into the new Blackfan right-of-way if it is moved to the East to run adjacent to English High.

Over the longer term, the plan also leaves open the potential for redeveloping the site leased from Emmanuel College, currently occupied by the two-story parking deck. The lease on this site runs through 1998, with extensions possible through 2008. If it is redeveloped, it will be important to plan the area in a coordinated manner with the long term use of the Alumnae Hall site and the Campus Shop site. This area appears to be a logical long term location for physician and staff parking for Children's, Beth Israel and the eventual occupants of the English High site.

On the Main Campus, the concept plan proposes two minor but important changes:

- o **Improvements to the Entrance of the Main Building** -- improvements to increase the attractiveness of the main entrance include construction of weather protection canopies from Longwood to the entrance, expanding the pedestrian sidewalk by relocating the taxi zone, re-landscaping the entrance court and improving lighting and entrance doors.
- o **Expansion of the Main Operating Room Surgical Suite** -- a modest expansion of the surgical suite by filling in space over the winter garden, as contemplated in the original building design of the Main Building.

In addition, a long term goal for developing the campus remains the creation of an open space on Longwood Avenue at the entrance to Children's. This project, which would require the removal of the upper two levels of the Enders east wing, must await the expansion of research space on campus to accommodate the active research programs in the building to be demolished.

FIGURE 5-1 CONCEPT PLAN

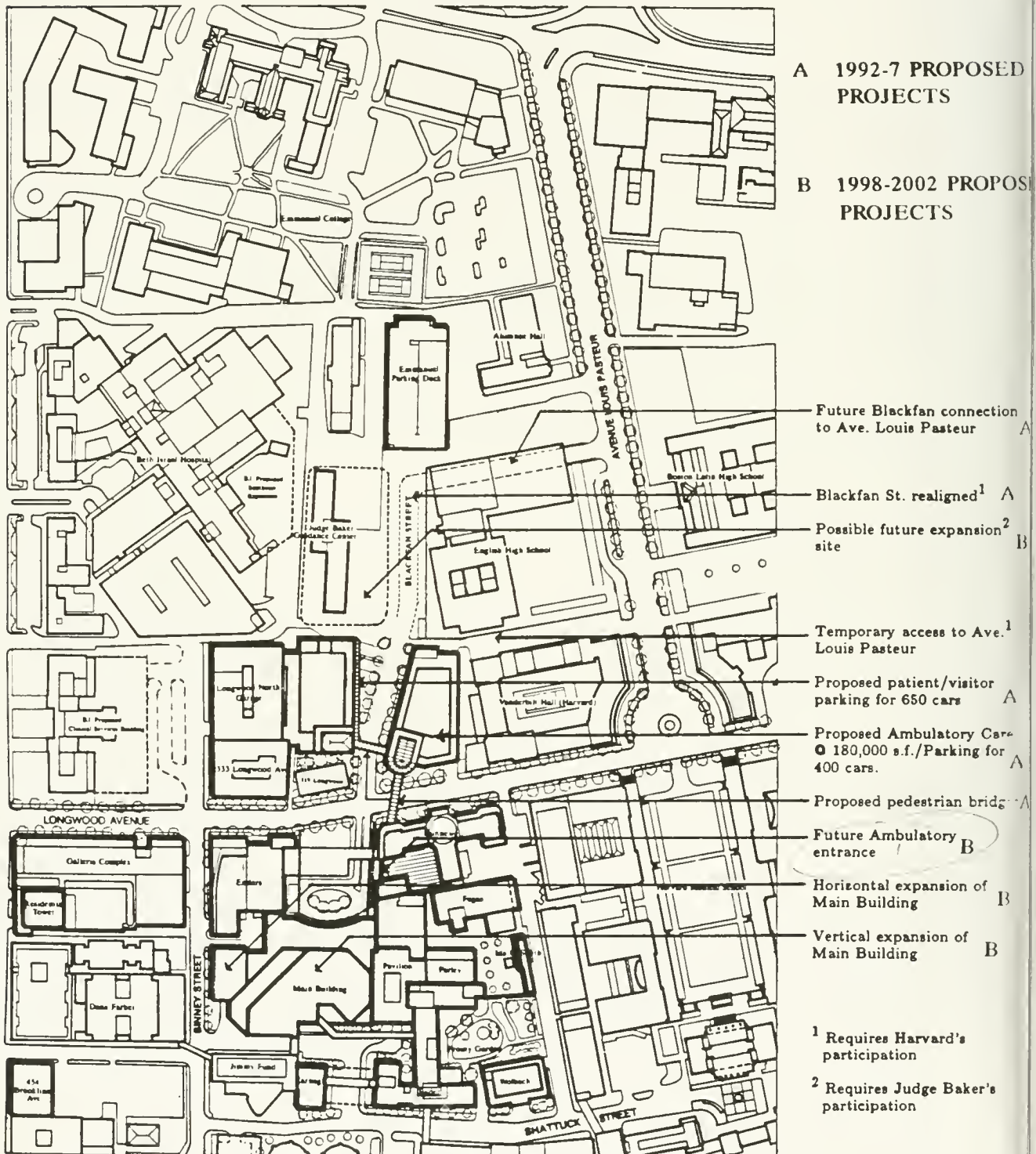
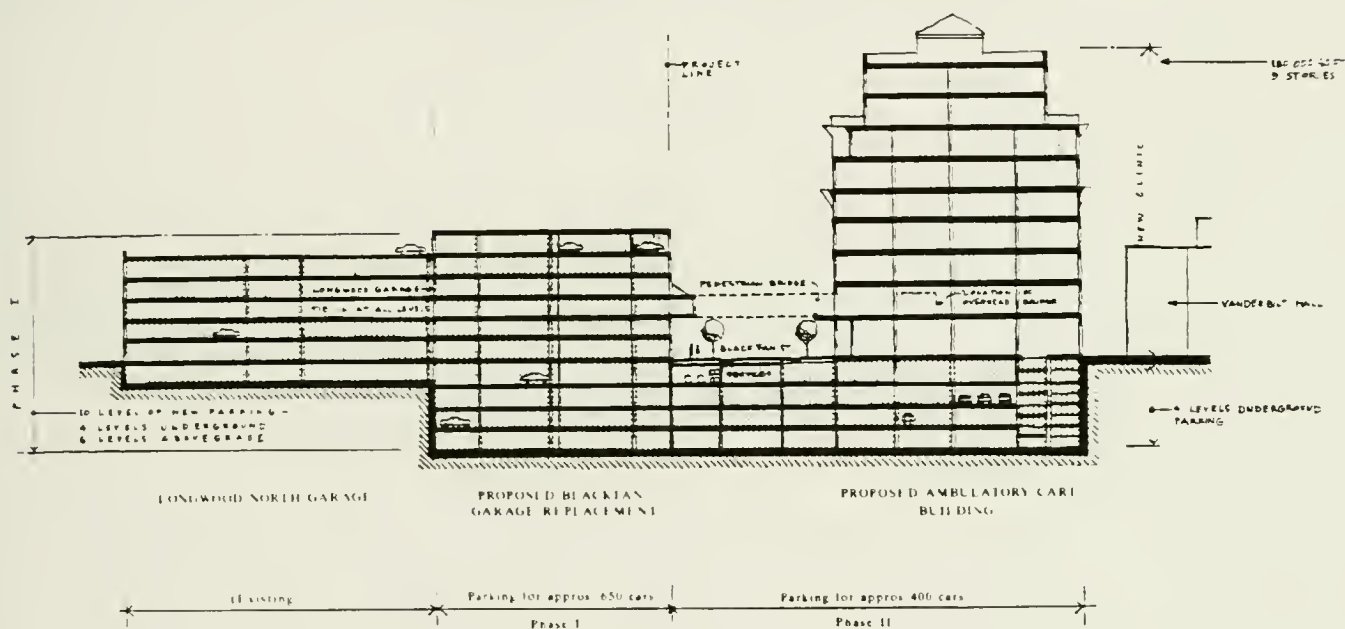


FIGURE 5-2 SECTION THROUGH MAIN CAMPUS NORTH DEVELOPMENT



SECTION THROUGH BLACKFAN STREET Looking North

See Figure 3-2 for section-cut location

5.3 ALTERNATIVE DEVELOPMENT CONCEPTS CONSIDERED

In the course of planning, several alternative approaches to locating the new ambulatory care spaces and parking facilities were considered and rejected in favor of the preferred alternative. In view of these alternatives, the proposed concept plan has many advantages. It allows development on lands currently owned by Children's. It places patient and visitor parking in the location where it can be most effective. Logistically, it allows surface parking to be used while the Blackfan garage is replaced. On the other hand, the high proportion of parking provided below grade carries a premium in costs, although not large, since it obviates the need for expensive foundations for the ambulatory care facility.

The alternatives considered included:

A - 1987 MASTER PLAN

The 1987 Master Plan, shown on Figure 5-3, proposed the expansion of ambulatory care space in the area between Fegan and Hunnewell, with a new entrance on Children's Place. A new above-grade parking facility would be located on the Gardner House site, with a small medical office building fronting along Longwood. Ultimately, the Blackfan Garage would be replaced with a similar above-grade structure. Bridges over Blackfan and Longwood would link the parking areas to the ambulatory care areas.

Advantages:

Able to be built on existing sites

Expands small floors on Fegan making them more usable

Results in a compact relationship between ambulatory care, inpatient facilities and research

Disadvantages:

Gardner site is too small to allow efficient parking structure as well as office space

Difficult and costly construction problem to build between Fegan and Hunnewell

Construction would disrupt many current operations

Access demands on Children's Place would be excessive

Parking on both sides of Blackfan would deaden street



B - LINEAR PARKING FACILITY

Two alternative configurations which shifted parking northward were considered. The first, shown on Figure 5-4, would create a long (over 600 ft) linear parking facility extending from the rear of 319 Longwood to the north edge of Judge Baker site. The ambulatory care facility would occupy the Gardner site and be connected by bridge to Hunnewell and the Main Campus.

Advantages:

Efficient and inexpensive parking structure

Allows existing utilities to remain in place

Provides large site for new ambulatory care building

Disadvantages:

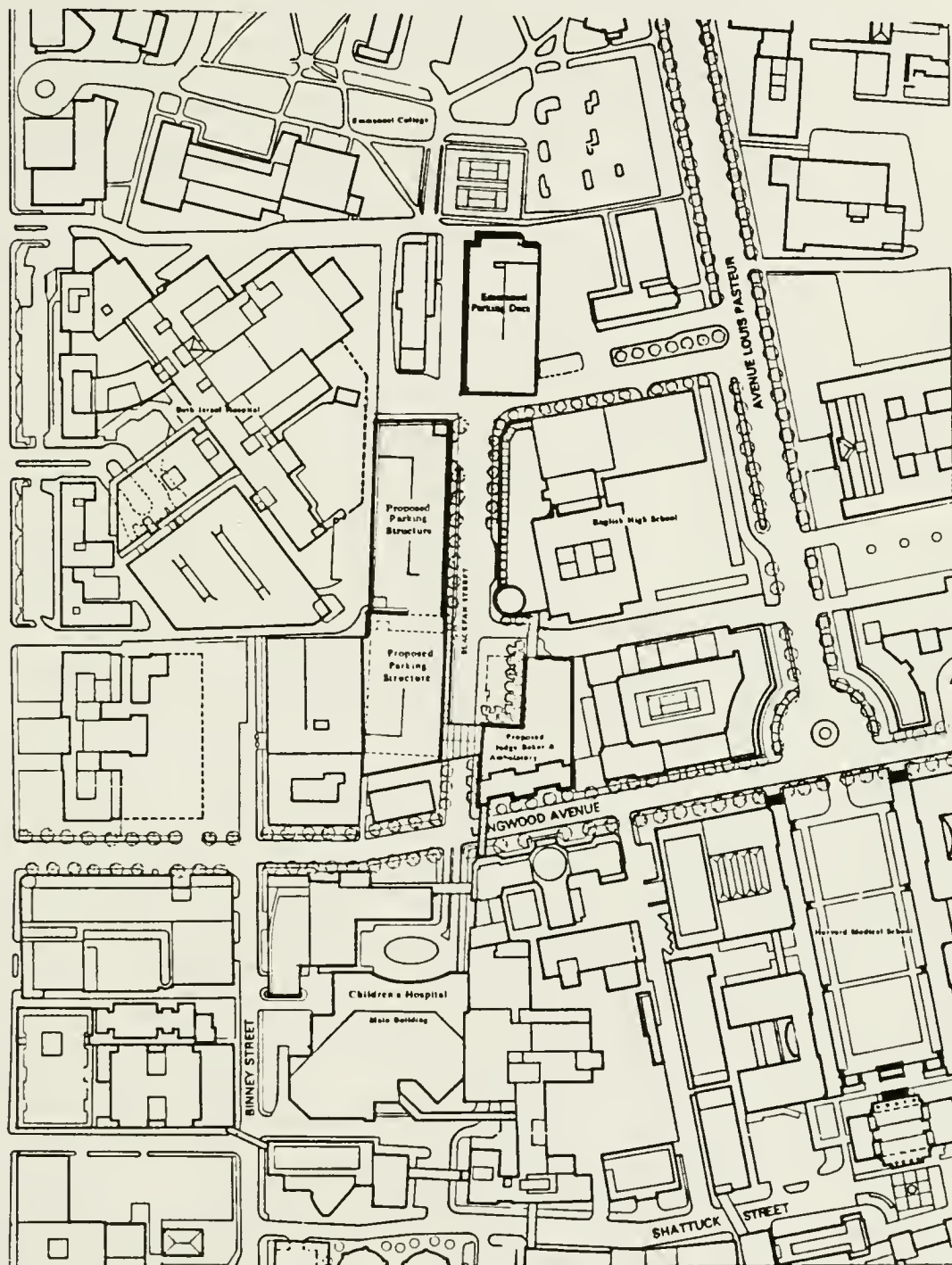
Lengthens walk from parking to Main Campus

Requires acquisition of Judge Baker site

Difficult to stage, since Judge Baker facility must be replaced before site is available for parking structure

Creates unusable site on Harvard land adjacent to English High

FIGURE 5-4 LINEAR PARKING SCHEME



C - NORTH PARKING SCHEME

A second variation on this approach is shown on Figure 3-7. This would involve demolition of the two story deck now on the Emmanuel site and the construction of a major new facility to accommodate staff parking and some patient and visitor needs, perhaps jointly with Beth Israel. The Blackfan structure would then be replaced in its current configuration, and an ambulatory care facility would be built on the Gardner site. Depending upon whether or not the alignment of Blackfan is shifted to the east, one or two mid-block development sites would accommodate future development needs.

Advantages:

Has potential for major supply of employee parking in efficient configuration

Provides good ambulatory care site

Disadvantages:

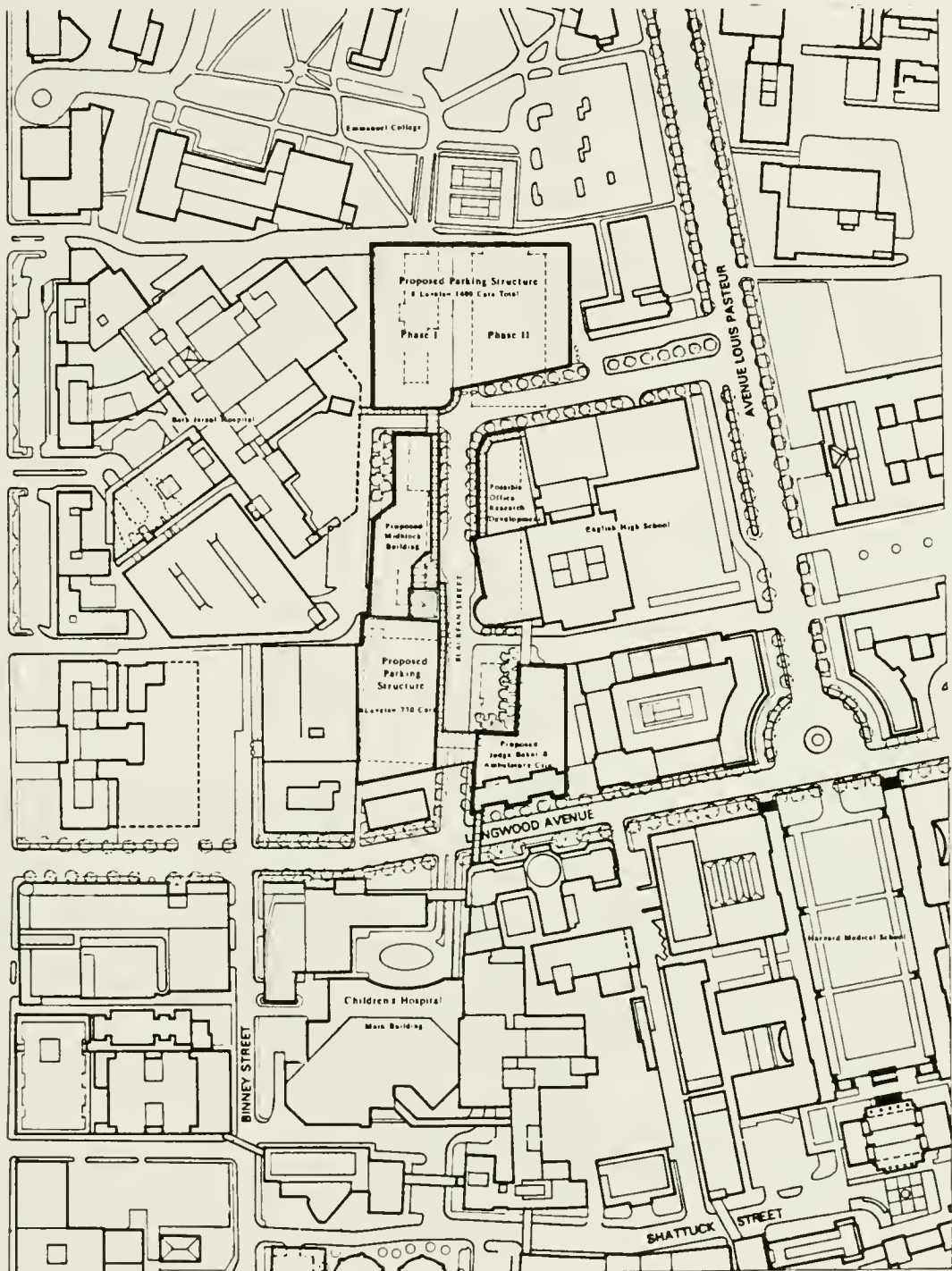
Long walking distance from parking to new ambulatory care facility and, especially, Main Campus

Blackfan replacement garage does not accommodate all visitor and patient needs

Requires Emmanuel decision on sale of site to begin process

Poor configuration of mid-block sites if Blackfan is not relocated

FIGURE 5-5 NORTH PARKING SCHEME

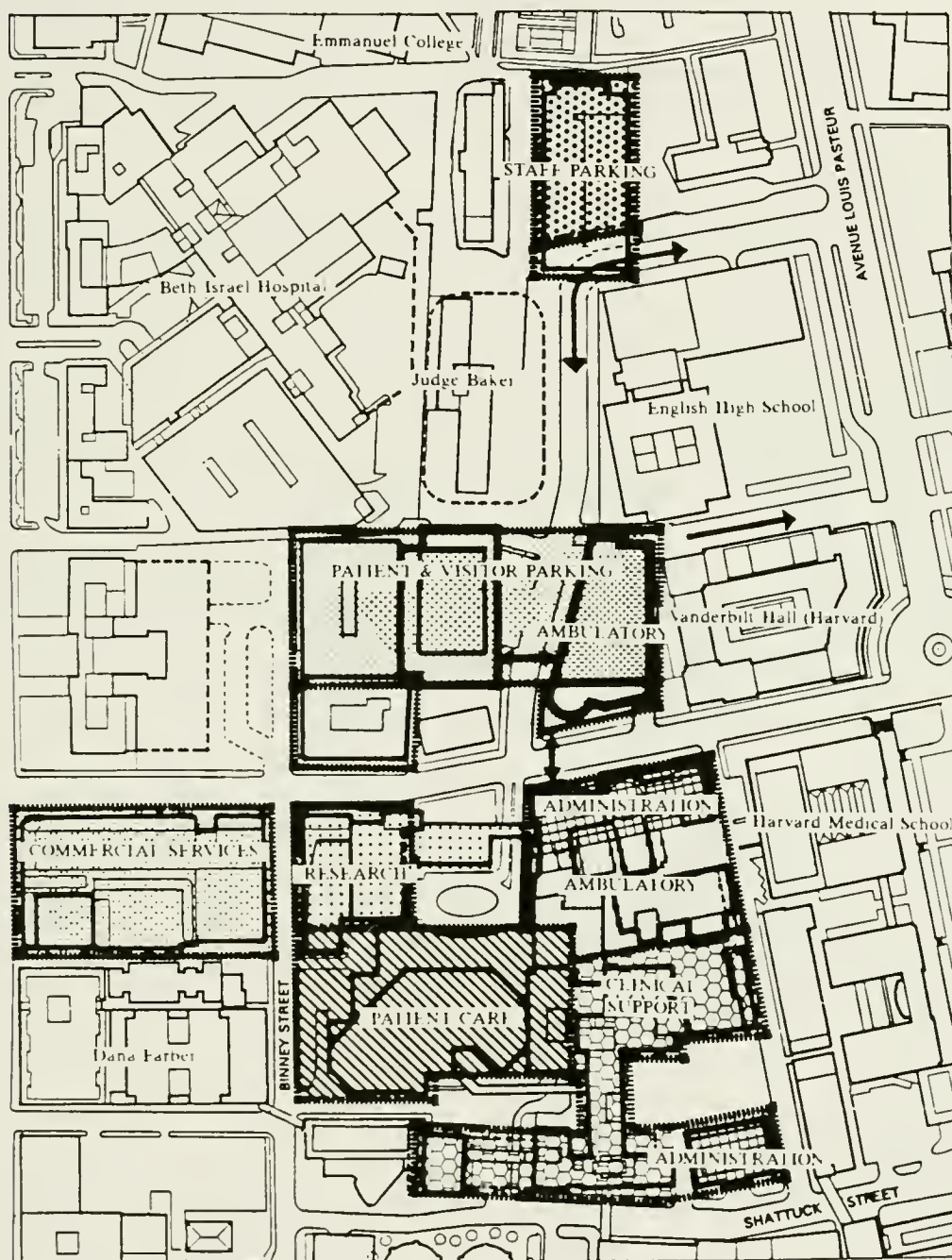


5.4 USE ZONES

A medical center is a complex environment, requiring multiple connections among its parts and a great deal of flexibility for modification of its spaces over time. However, there is value in adopting a general pattern of use zones so that programs and activities requiring similar spaces or a similar degree of public access are near each other. Then, as locations need to change, there will be fewer impediments to expansion into adjacent spaces.

The diagram which follows summarizes the proposed use zones for the main campus. The three main functional areas -- outpatient clinics, inpatient care and research will each have a "front door". Research and inpatient care will front on Children's Place. With the addition of the proposed parking and ambulatory care space north of Longwood, outpatient care will have a new locus, but will be connected to existing programs in Fegan via a bridge. Ultimately, it may make sense to shift remaining care functions to the area north of Longwood.

FIGURE 5-6 USE ZONES



5.6 INTERNAL ACCESS

With the connection of the lobby of the new Main Building to the reception areas, gift shop, cafeteria and other public uses in Pavilion, the network of public ways has become a "public street" connecting the key buildings on the main campus. The logical extension of this street to the north side of Longwood, where parking and the new clinic will be located is via a bridge at this level, connecting through level 1 of Hunnewell, which is the main pedestrian level of the campus.

There is also value in establishing a second continuous passageway system one level above the public corridor. This system would have somewhat more restricted access and would serve as the level for movement between buildings and program divisions by staff and patients. Its virtue will be to reduce congestion in the public corridors and allow movement with greater privacy and security. It would be appropriate to connect the research spaces to the balance of the campus at this level. This bridge should also improve the flow of vehicular traffic on Longwood Avenue by reducing the heavy volume of pedestrian crossings at Blackfan Street. Currently pedestrians crossing during the dedicated cycle, and easing into the intersection when the light is red, restrict significantly the number of vehicles which can move through the intersection .

Proposing a new "staff" access system does not alleviate the need for connections between adjacent structures at other levels as well. Rather, it reserves the capacity for a major increase in lateral movement among buildings so that the capacity of corridors does not become a major constraint to campus expansion.

The diagram on the following page summarizes the internal circulation concept.

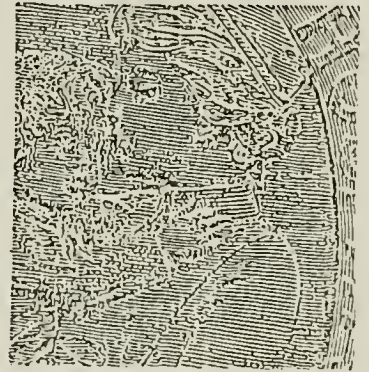


5.6 PHASING OF CHANGES

The phasing of proposed new buildings must take into account the need to discontinue the use of the Blackfan Garage by 1995, the need to maintain parking for patients and visitors on campus throughout the process and the need to create relocation spaces for staff and programs to be displaced. In outline, the steps are:

1. Construct replacement space for occupants of Gardner House. Activities currently in Gardner, plus other activities capable of being relocated a short distance from the main campus, will be shifted to the recently acquired 1295 Boylston Street building, making room on campus for those activities which must remain at the center.
2. Demolish Gardner and convert site to a surface parking area. By making temporary use of the Harvard lot and by shifting staff currently parking in the Longwood North Garage to the Emmanuel deck, sufficient patient and visitor parking can be created to replace the spaces currently available in the Blackfan Garage. This will require attendants to make maximum use of the surface area available.
3. Demolish the Blackfan Garage and replace it with a new above- and below-grade structure. As part of this project, the utilities currently in Blackfan street will be relocated into a utility corridor.
4. Construct new ambulatory care facility with below grade parking connected to the new parking structure on the Blackfan site.

The focus of development through 1997 will be on the area north of Longwood Avenue reflecting the increased attention given to ambulatory care and treatment. During the 1997-2002 period, attention will shift back to the area south of Longwood, with an investigation of possible horizontal and vertical expansion of the Main Building. Further expansion of ambulatory care may also necessitate additional development of the area north of Longwood.



6 Development Guidelines

6.0 DEVELOPMENT GUIDELINES

6.1 GUIDELINES FOR PATIENT AND VISITOR PARKING PROJECT

The Patient and Visitor Parking Facility project responds to the need to replace the current Blackfan Garage in the near future. It is designed to replace the approximately 650 parking spaces now available for patients and visitors in a new structure with six levels of parking above grade and four levels below grade. The structure should be designed so that it might ultimately accommodate occupied space above the parking structure.

The parking facility should be connected to the existing five level Longwood North garage at each level above grade and in the existing partial basement. This will allow the Longwood North ramp to be used for ascending traffic, while the new Parking Project can serve as a descending ramp above ground. Below ground, the structure should be designed to tie into the proposed four level parking structure below the proposed Ambulatory Care building to the east.

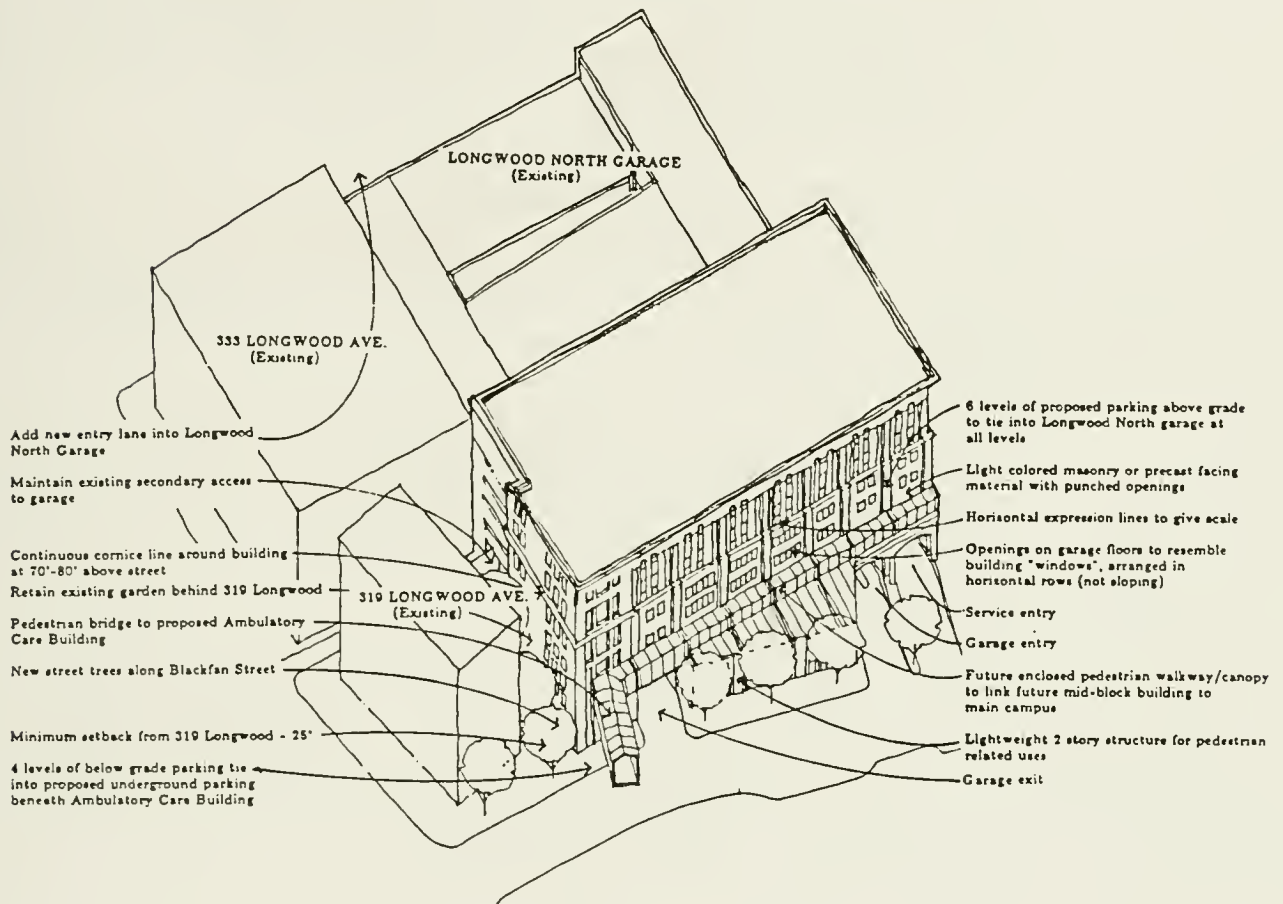
The master plan proposes the realignment of Blackfan Street eastward so that it ultimately runs adjacent to English High, thereby increasing the size of the parcel to the north of the garage, which may represent a future development site (beyond the 10 year horizon of this plan). Ultimately, Blackfan Street should be connected to Avenue Louis Pasteur across City of Boston property currently occupied by English High, to encourage use of this street as an access route to parking facilities, thereby providing relief to Longwood Avenue. Realignment of the street will require the cooperation of Harvard University (which owns the land proposed for the Blackfan Street right-of-way), Judge Baker Children's Center and possibly Emmanuel College (if the link to Louis Pasteur passes across the corner of its property). Utilities currently in Blackfan Street should be relocated into a utility corridor adjacent to the proposed Parking Project. If Blackfan Street is realigned, a two story pedestrian oriented facility, such as a small commercial space, transportation office, or an enclosed waiting area for shuttle transportation could be added to the parking structure to animate the street level.

The parking facility should be connected to the proposed Ambulatory Care Building (ACB) by a third level bridge (connecting to the second level of the ACB) and ultimately across Longwood to the main campus.

Project data:

Site area	approx. 30,300 sf (includes approx. 3900 sf to be acquired from 333 Longwood owners.
Building area	approx. 269,000 sf (650 spaces)
Building heights	approx. 50' above grade
Timing	1992-7

FIGURE 6-1 DESIGN GUIDELINES -- PARKING PROJECT



6.2 GUIDELINES FOR AMBULATORY CARE BUILDING

The Ambulatory Care Building responds to the need for improved and enlarged ambulatory clinic and office space. A structure of up to nine stories is proposed on the site currently occupied by Gardner House. The structure should be designed to have floor areas of approximately 25,000 sf which are suitable for ambulatory care purposes. Below the structure and adjacent Blackfan Street, a four level parking structure is proposed, accommodating approximately 400 cars.

The design guidelines suggest setting the building back approximately 35 feet from the curb of Longwood Avenue, in order to maintain the current open space which is heavily used. A cornice line of approximately 75 feet should be established to relate to other structures along Longwood Avenue, with taller portions of the building stepped back at least 10 feet. A rounded corner will give the structure a distinctive form while providing a smooth transition to Blackfan Street.

The principal entrance to the Ambulatory Care Building should be from Blackfan Street to allow patients to be dropped off without impeding flow along Longwood Avenue. A second entrance might be located along Longwood Avenue, or alternatively, commercial spaces might occupy this frontage to animate the open space.

Project data:

Site area	approx. 53,100 sf (includes Blackfan St. right-of-way)
Building area	Ambulatory Care -- approx. 180,000 gsf above grade Parking -- approx. 173,000 gsf below grade (400 spaces)
Building heights	approx. 125' above grade
Timing	1992-7

FIGURE 6-2 DESIGN GUIDELINES – AMBULATORY CARE PROJECT

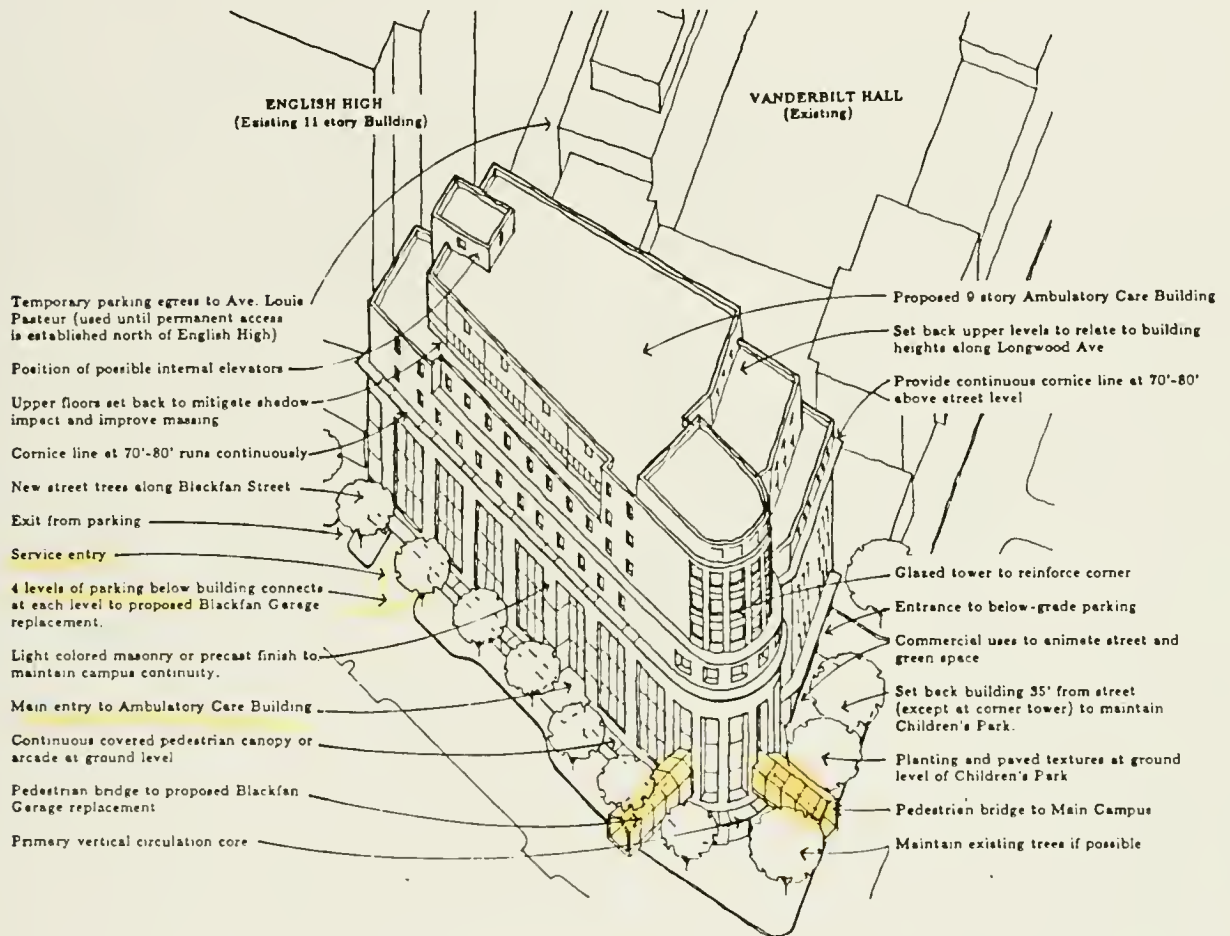
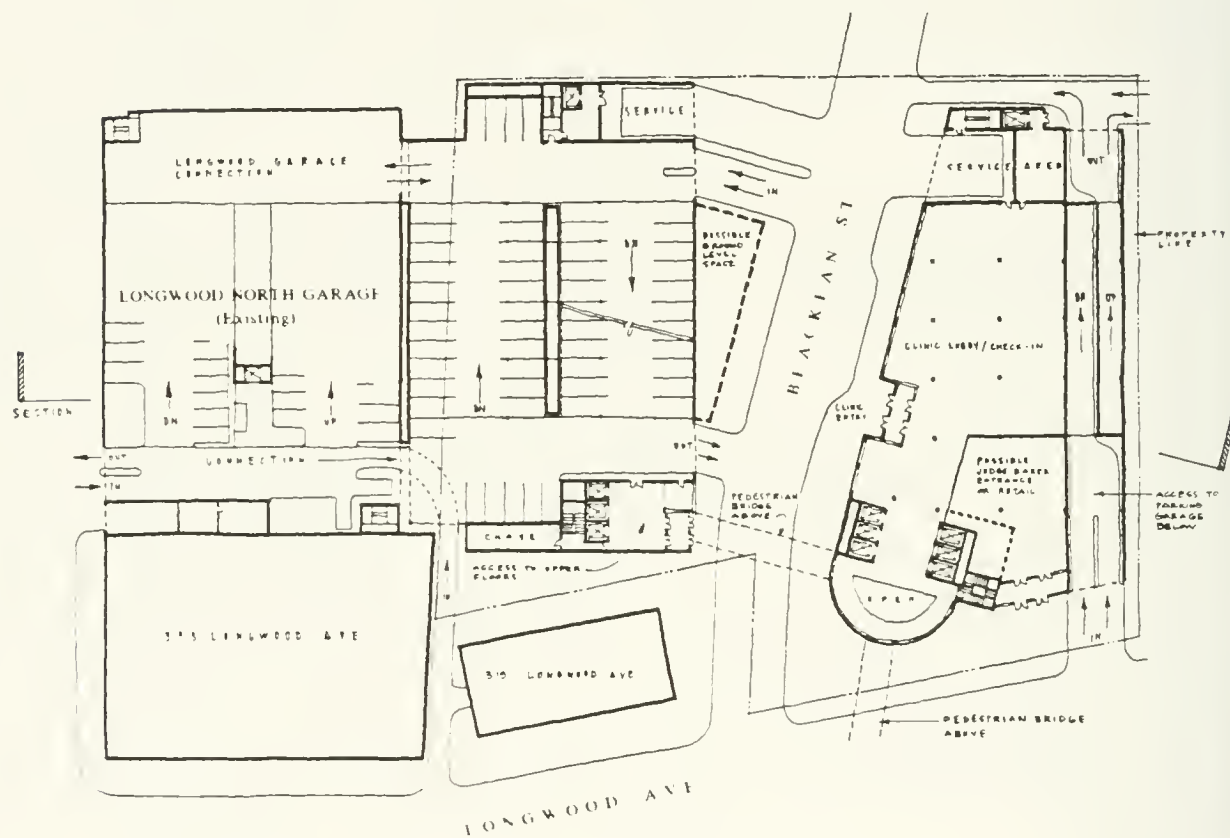
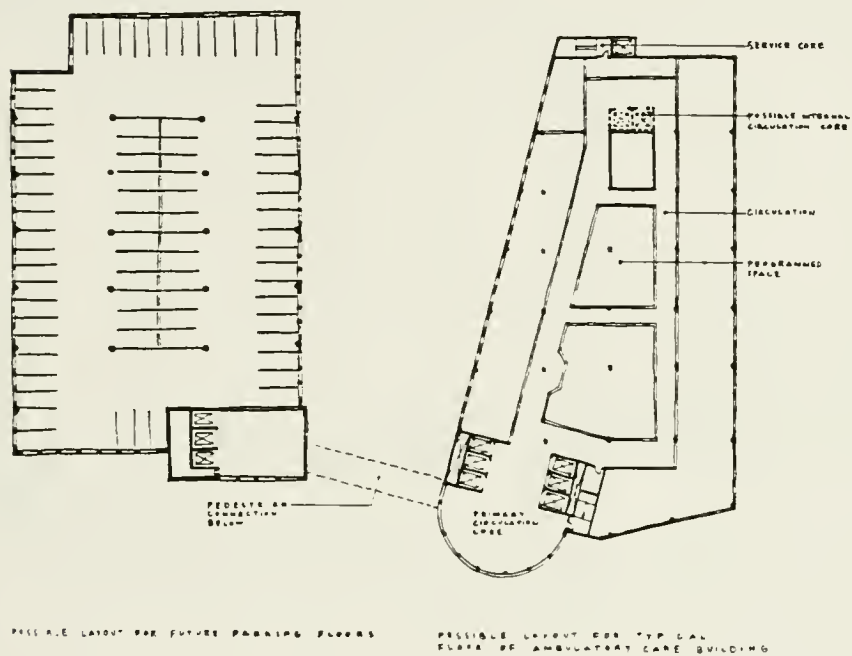


FIGURE 6-3 GROUND LEVEL PLAN -- PARKING AND AMBULATORY CARE PROJECTS



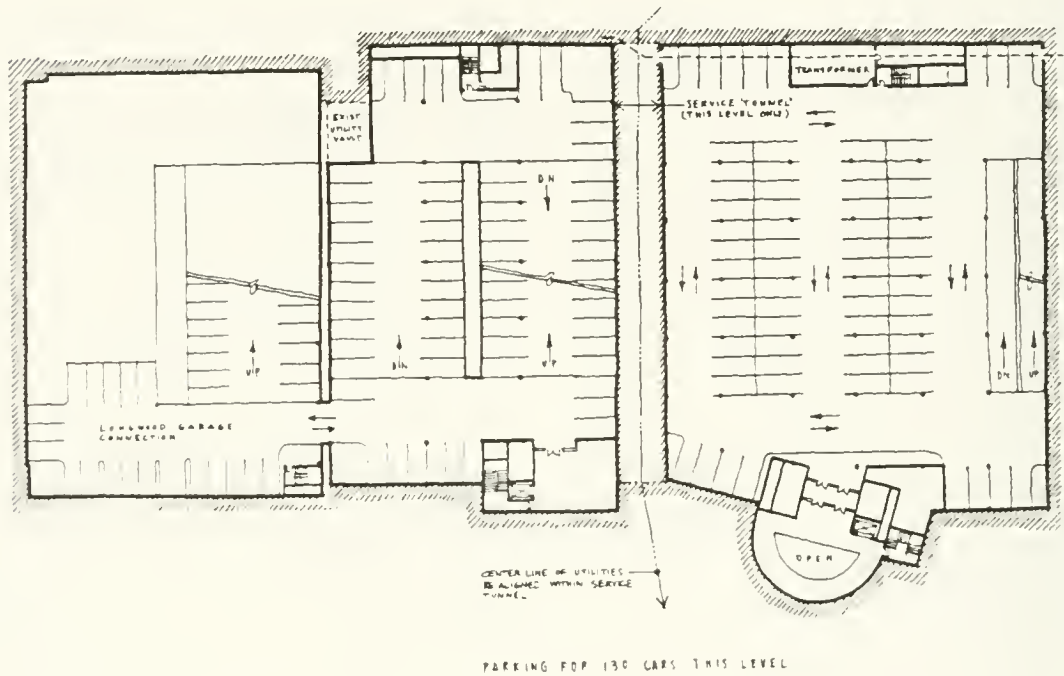
PROPOSED GROUND FLOOR PLAN
North Campus Development

FIGURE 6-4 TYPICAL UPPER FLOORS -- PARKING AND AMBULATORY CARE



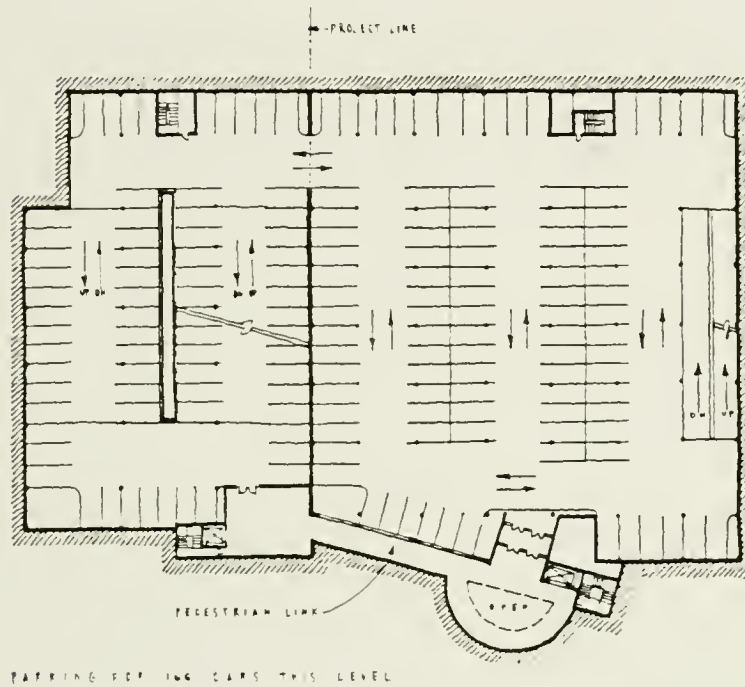
PROPOSED TYPICAL UPPER FLOOR PLATES

FIGURE 6-5 -1 LEVEL PLAN -- PARKING AND AMBULATORY CARE



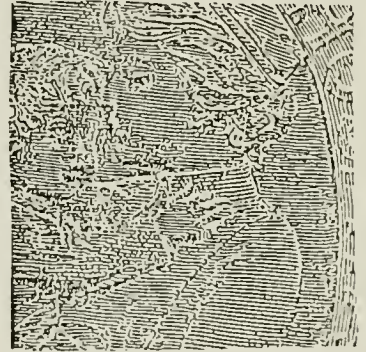
PROPOSED BELOW GRADE PARKING LEVEL -1
North Campus Development

FIGURE 6-6 -2 TO -4 LEVEL PLANS -- PARKING AND AMBULATORY CARE



PROPOSED BELOW GRADE PARKING LEVELS -2,-3,-4
North Campus Development

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7 Access and Parking

7.0 ACCESS AND PARKING

7.1 INTRODUCTION

This section of the Master Plan presents a discussion of the existing and projected parking supply and demand relationship at the hospital. Also included is an assessment of the anticipated traffic impacts and mitigation measures associated with the proposed projects over the next five years. The text which follows is also an update of the 1988 Children's Medical Center Parking Study.¹

7.2 EXISTING CONDITIONS

Transportation Context

The Children's Medical Center complex is located in Boston's Longwood Medical Area (LMA). The LMA is a densely developed section of the City of Boston which also has several major streets that carry regional through traffic and provide access to LMA institutions. The two major streets that serve Children's are Brookline Avenue and Longwood Avenue. Brookline Avenue is a two-way arterial that in 1990 carried 22,000 vehicles per day while Longwood Avenue in 1990 carried 13,000 vehicles per day.² The hospital is also served by Binney Street, which provides local access between Longwood Avenue and Francis Street. Avenue Louis Pasteur, which runs to the east of the Hospital adjacent to Emmanuel College, is a less used two-way street providing a connection between Longwood Avenue and the Fenway.

Children's Hospital has been actively involved with studies of the area's transportation system for many years. As a major contributor to the area's planning organization, the Medical Area Service Corporation (MASCO), the Hospital has participated in numerous transportation studies and improvement projects.

A detailed summary of the access/egress system serving Children's was presented in the Longwood Medical Area Transportation Study prepared for the Medical Area Service Corporation (MASCO).³ This study described existing land uses in the LMA, transportation system characteristics, and provides detailed summaries of area travel patterns and roadway/transit system performance. The study illustrated numerous system and locational deficiencies which were evaluated. Specific solutions were developed and recommended in a subsequent memorandum. The major findings of the LMA study and more recent implementation activities are incorporated throughout this chapter.

In 1988, Children's commissioned a parking master plan study in conjunction with its overall institutional master plan. That study identified a then (1988) peak period parking shortage of 483 spaces, comprised of 232 spaces for patients and visitors and 251 spaces for staff. When considering future conditions, including the attendant growth in hospital services, the study forecast the shortfall to increase to over 600 spaces by 1993.

Since the completion of the earlier LMA and Children's studies, some significant changes have occurred with the hospital's parking system and to the LMA transportation system.

^{2/} These recent volumes are somewhat lower than volumes observed in 1987, in part reflecting regional economic conditions.

^{3/} Refer to Longwood Medical Area Transportation Study, Technical Memorandum #1, Summary of Existing Conditions, Vanasse Hangen Brustlin, Inc., November 1987.

These include:

- o the decline or stabilization in traffic volumes both during peak periods and on a daily basis on most streets in the LMA.
- o the removal of over 100 parking meters along Brookline and Longwood Avenues, providing additional travel lanes and additional traffic capacity to the intersection of Brookline and Longwood Avenues
- o the construction of a 400 parking space deck at Emmanuel College shared evenly between Beth Israel Hospital and Children's (described previously in Section 1.4)
- o the development (by others) of two parking facilities on Longwood Avenue, the MASCO Mixed Use Development at Temple Israel (375 Longwood Avenue) and the Harvard University Quadrangle garage

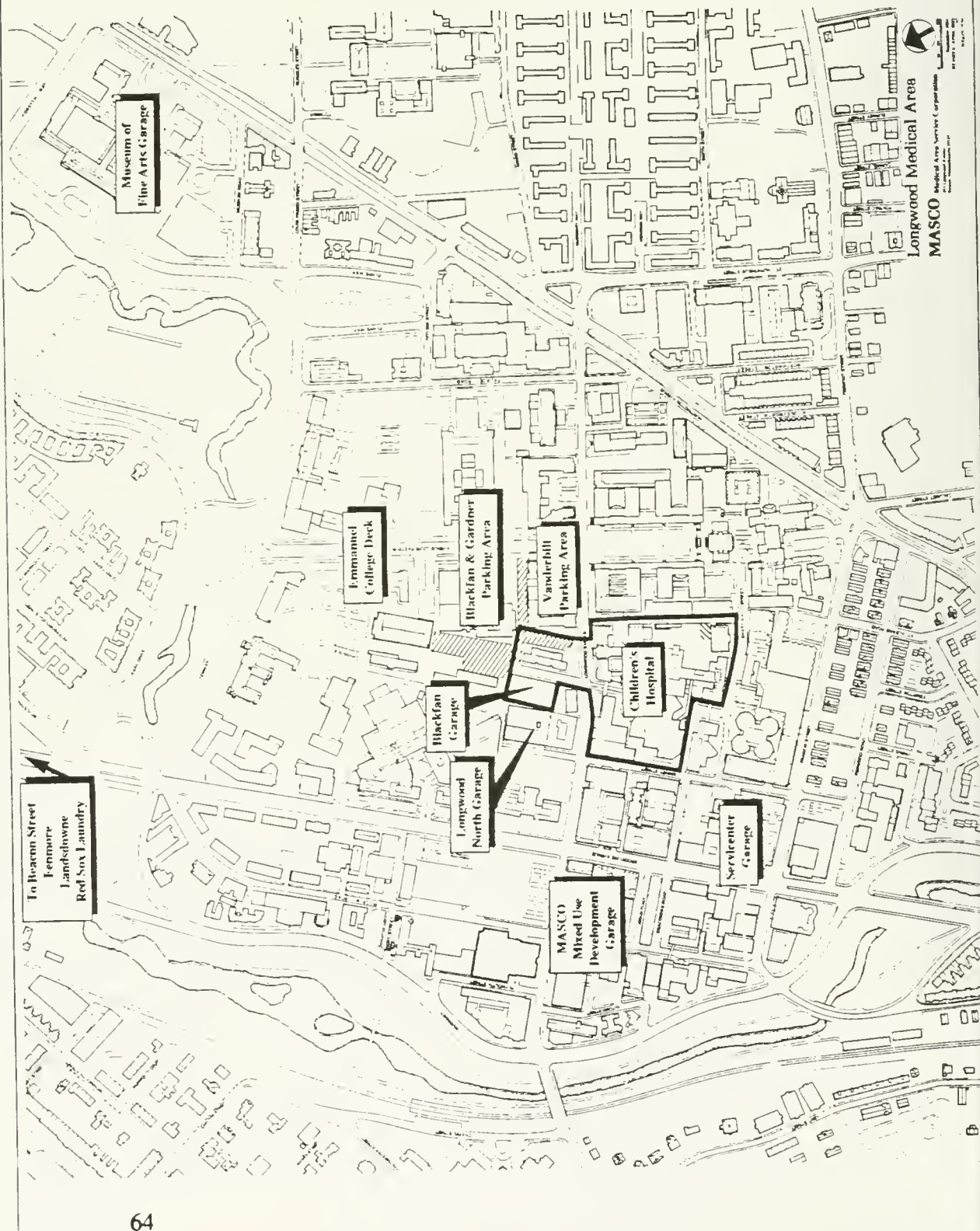
Parking Supply

As of October 1991, there are approximately 1,773 parking spaces which are controlled by Children's Hospital through its Parking and Transportation Office. Children's Hospital and Children's Medical Center own a total of 919 spaces. The remaining 854 spaces are leased from various parties. This represents 151 spaces more than were available in 1988, with the new spaces located primarily behind Vanderbilt Hall (leased on a yearly basis), at 375 Longwood Avenue and at the Emmanuel College Deck. These spaces can also be divided according to their distance from the hospital as: 1,282 nearby parking spaces within walking distance of the hospital (within the LMA) and 491 parking spaces in locations requiring shuttle bus service to and from the hospital. The facilities within walking distance are illustrated in Figure 5-1. A more detailed description of the nearby and off-site facilities follows.

Because all access to parking on Blackfan Street north of Longwood Avenue is provided via a gate control system run by Children's, parking spaces for the Judge Baker Children's Center (32 spaces) and Harvard Medical School (98 spaces) are also controlled by Children's by arrangement with these institutions. Non-Children's parkers are issued special cards which enable them to enter and exit the gate controlled parking area.

A total of 552 patient and visitor parking spaces are currently provided in parking areas accessible from Blackfan Street. Of this total, 434 spaces are in the Blackfan garage and the remaining 118 spaces are in surface parking lots. This parking supply differs from the 474 spaces reported in the 1988 parking study for this area because approximately 18 additional surface spaces are available adjacent to the garage, and Harvard is now leasing the 60 spaces behind Vanderbilt Hall to Children's. These spaces are being leased out because Harvard's parking supply increased upon completion of the Quadrangle garage. An egress route behind Vanderbilt Hall to Avenue Louis Pasteur was recently constructed and has been placed into service.

FIGURE 7-1 EXISTING PARKING FACILITIES



- ☐ Parking Structure
- ☒ Surface Parking

Vanasse Hangen Brustlin, Inc.

Figure 5-1
Existing Parking Facilities

Longwood Medical Area
MASCO
Medical Arts Services Corporation
1000 Broadway, Suite 1000
Nashville, Tennessee 37203
423.246.1111
www.mascoinc.com

CHILDREN'S HOSPITAL PARKING SUPPLY*

567
434
133

Facility Name	Allocation of Spaces			Comments
	Patients/ Visitors	Staff	Total	
<u>Within Walking Distance</u>				
Blackfan Garage	434			Valet parking occurs in aisles at peak times accommodating up to 567 vehicles
Gardner Area	58			
Vanderbilt	60			Year-to-year lease
Shattuck Street		8		
Emmanuel Deck		200		
333 Longwood		178		
Service Center		104		
375 Longwood		240		Temple Israel site
Subtotal	552	730	1,282	
<u>Shuttle Required</u>				
Museum of Fine Arts		200		Restricted to daytime hours
Beacon Street		217		Children's Medical Center
Fenmore		24		Children's Medical Center
Landsdowne		25		Leased from MASCO
Red Sox Garage		25		Former Hospital Laundry facility leased from MASCO
Subtotal		491	491	
TOTAL	552	1,221	1,773	

* As of October 1991

A total of 730 spaces within walking distance of the hospital are designated for use by those members of the hospital staff who need convenient parking near the hospital due to the nature of their job (i.e. second shift nurses, senior physicians, and senior administrators). This supply has recently increased as a result of the completion of the MASCO mixed-use development at 375 Longwood Avenue, where Children's supply increased by 105 spaces, and at the Emmanuel Deck, where the supply allocated to Children's increased by 100 spaces to 200 spaces after the deck was built.

Approximately 491 off-site parking spaces are currently available in five different locations for use by Children's employees. While two of these facilities, Fenmore and Beacon Street, are controlled by Children's Medical Center, the spaces in the other three facilities are not available on a long-term basis. At the Museum of Fine Arts, the 200 spaces have restrictions on the hours of use and high cost penalties if utilization exceeds the leased 200 spaces.

These spaces are leased through mid-1994. At the Landsdowne garage, there are time-of-day restrictions as well as the need to leave keys with an attendant. At the recently opened Red Sox garage, time-of-day restrictions also exist during the baseball season.

In total, as mentioned previously, the parking supply available to serve Children's has increased by 151 spaces since 1988. This represents approximately 31 percent of the shortfall identified in 1988. In addition, the mix between spaces within walking distance and spaces requiring shuttle service has changed from 66 percent nearby and 34 percent requiring shuttle service to 72 percent nearby and 28 percent requiring shuttle service.

Children's charges its employees a variety of prices for parking, ranging from \$60 per month for off-site spaces requiring shuttle bus service to \$130 per month for the most convenient spaces within walking distance of the hospital. Patient and visitor parking costs vary according to the duration a vehicle is parked with the average ticket costing approximately \$3.40. The daily maximum charge for parking is \$15.

The Blackfan garage, which is nearing the end of its useful life, is an inefficient facility. Because of the sharp turns required to travel on the end ramps connecting each level, it is difficult and time consuming for a motorist to circulate throughout the facility. As a result, Children's often parks patient and visitor vehicles in the aisles of the first few levels of the facility even though some spaces may be available on the roof. During the afternoon peak hour (2:00 to 3:00 PM), however, the entire garage, including aisle parking is full. This is not an acceptable long-term arrangement for patients and visitors who are delayed by the valet operation.

Peak Period Parking Supply and Demand Relationship

The number of parking spaces required to serve patients, visitors, physicians and staff who drive to Children's Hospital has exceeded the number of actual spaces available on the campus for many years. As mentioned above, the hospital is forced to handle this shortfall by valet parking vehicles in the aisles of the garage and surface lots in the Blackfan parking area as well as directing parkers to adjacent parking facilities such as 333 Longwood Avenue. The staff shortfall is addressed by limiting the number of nearby spaces allocated to employees, by charging relatively high fees for parking privileges (particularly nearby spaces) and by assigning almost all employees to off-campus facilities.

The peak period parking supply and demand relationship is based upon a comparison of the available spaces with the parking demands associated with the various groups of parkers. For the 1988 study, detailed interview and questionnaire surveys were conducted to determine the travel patterns of staff patients and visitors. The surveys showed that during the day, an average of 52 percent of Children's employees drive to work and park. This includes both those parking areas within walking distance and parking areas requiring shuttle service to the hospital.⁴ The surveys also showed that a total of 64 percent of patient families, 77 percent of patient visitors, and 74 percent of business visitors arrived by automobile. These patterns, when applied to the current population characteristics of the various groups of individuals who travel to the hospital on a daily basis, yields the following relationship.

EXISTING PARKING SUPPLY/DEMAND RELATIONSHIP

	<u>Patients/ Visitors</u>	<u>Staff</u>	<u>Total</u>
Spaces Required	736	1,416	2,152
Spaces Available	552	1,221	1,773
Surplus (Deficit)	(184)	(195)	(379)

Notes:

1. Population statistics and parking supply information provided by Children's Hospital.
2. Parking spaces required computed by Vanasse Hangen Brustlin, Inc. based upon known travel patterns and hospital-provided data. Refer to spreadsheet in the appendix for further details.
3. Patient and visitor demand includes a 10 percent cushion for space turnover.

The existing parking supply and demand relationship indicates an overall deficit of 379 spaces at the peak hour. This is comprised of a 184 space shortfall for patients and visitors (partially addressed through valet parking) and a 195 space deficit for staff.

Although the hospital has been valet parking vehicles for several years, this arrangement is not acceptable for the long term. Given that the Blackfan Garage needs to be replaced, there are two ways in which the hospital intends to address the overall deficit in parking spaces. One method is to construct new parking facilities and the other is to manage and attempt to reduce the demand for parking by encouraging the use of alternate modes of travel. The following section identifies some of the ongoing demand management strategies at Children's.

Ongoing Transportation Demand Management

Since 1987, Children's has executed two Transportation Access Plan Agreements with the Boston Transportation Department: one in conjunction with the Enders Building expansion, and the other in conjunction with the Emmanuel College parking deck. In these agreements, Children's made several commitments to manage the demand for parking at its facilities. These commitments included: 1) installing a ride board to encourage employees to post their own notices about carpooling, 2) providing free parking in the Blackfan parking area to vanpools carrying ten or more employees, 3) monitoring of employee transportation patterns, and 4) offering a 25 percent subsidy for employees' MBTA transit passes sold at Children's Hospital. Since the pass subsidy was introduced, the number of monthly passes sold increased from 300 to 1,400.

Children's has also participated in the ongoing areawide transportation management strategies. The LMA's transportation management association, CommuteWorks, has been operating since 1990. This association has taken numerous positive steps to better managing the demand for transportation services in the LMA. Some of the measures instituted by CommuteWorks include:

- o Personalized assistance in choosing the most efficient and cost-effective means of transportation
- o Mass transit schedules and route information
- o RideSource, a computerized ride matching system
- o Information on commuter cost savings such as T-pass sales, discounts, and subsidies, Massachusetts Turnpike Authority carpool passes, carpool toll booths, and free preferential parking for vanpools⁵

Children's, as well as other member institutions, has assigned an Employee Transportation Advisor who is made available to staff members to provide personal assistance in locating commuting information. This coordination of transportation demand management has been quite successful, but has not and cannot fully solve the existing and forecast parking requirements of the hospital.

^{5/}

"CommuteWorks, the Longwood Medical Area Transportation Management Organization," informational brochure prepared by MASCO, 1990

7.3 FUTURE CONDITIONS

Introduction

This section includes information on future parking supply, anticipated hospital growth and its effect on peak period parking needs, and a brief assessment of future traffic conditions on Longwood Avenue.

As described earlier in Chapter 3, Children's Hospital plans to construct a 650-space parking structure to replace the Blackfan garage, and to construct a 180,000 square foot ambulatory care center with 400 parking underground spaces on the site of Gardner House.

Based on discussions with Children's staff, and as described in Chapter 1, by 2002 the demand for outpatient services is expected to increase by approximately 25 percent over existing levels in both emergency visits and outpatient clinic visits. The number of hospital employees is also expected to increase with the physician population growing by 30 percent, and the number of nurses and other staff growing by 24 percent, and 17 percent, respectively.

Parking Supply

The proposal to construct the partially underground Blackfan replacement parking facility and the adjacent clinical facility (with underground parking) will result in a 1,050 space parking project. The majority of these spaces will replace existing parking, however, as follows:

- o Blackfan garage to be demolished (-434 spaces)
- o Blackfan overflow valet parking to be discontinued (-133 spaces)
- o Gardner surface spaces to be discontinued (-58 spaces)
- o Vanderbilt spaces to be returned to Harvard and reduced in number in order to provide improved two-way traffic flow to/from Avenue Louis Pasteur (-30 spaces)
- o Harvard surface spaces to be closed (-98 spaces) in order to construct the extension of Blackfan Street

434
133
567

The result is that with 1,050 spaces being developed in the Blackfan area, the net increase in parking supply accessible from Blackfan Street will be only 297 spaces. Upon completion of the the proposed project and by incorporating essentially the entire Blackfan area for Children's parking, by 2002, Children's supply will increase to 2,271 spaces. This will be

-753
+1050
297

comprised of 1,780 spaces within walking distance and 491 spaces requiring shuttle bus service. Of the 2,271 spaces, a total of 1,477 spaces (65 percent) will be owned by Children's, and 794 spaces will be leased from other parties.

Peak Period Parking Supply And Demand Relationship

Including the above-referenced projects and forecast growth, the future parking supply and demand relationship is shown for both 1997 and 2002 below:

FUTURE PARKING SUPPLY/DEMAND RELATIONSHIP

	1997		2002	
	Patients/ Visitors	Staff	Patients/ Visitors	Staff
Spaces Required	770	1,515	823	1,728
Spaces Available	770	1,501	823	1,448
Surplus (Deficit)	0	(14)	0	(280)

Assuming that Children's continues to lease or own all of the off-site spaces it now uses, the above relationship shows a deficit of 14 parking spaces (for staff parking) in 1997 increasing to a 280 space deficit by 2002. When compared to the parking supply and demand relationship for existing conditions, with the proposed project, Children's will have essentially reduced its existing 379 space shortfall by approximately 100 spaces. Therefore, although the parking supply will have increased, the increase is consistent with future parking demand increases. In addition, the proposed parking projects address two significant problems: 1) parking within the aisles will be eliminated, and 2) the Blackfan garage, currently nearing the end of its useful life, will have been replaced.

Transportation System Impacts

As part of the master planning process, future traffic conditions along Longwood Avenue have been evaluated. This evaluation of 1997 conditions, with a comparison to existing conditions, considers the peak hour intersection level of service at three locations:

- o Longwood Avenue and Brookline Avenue
- o Longwood Avenue and Blackfan Street
- o Longwood Avenue and Huntington Avenue

A more detailed analysis of traffic impacts will be prepared in conjunction with a Transportation Access Plan that will be prepared for the proposed developments.

For the purposes of this analysis, it has been assumed that the following access and egress patterns will occur.

- o there will be three access points from Longwood Avenue (Binney Street via the 333 Longwood Garage, Blackfan Street and a new entrance east of Blackfan Street) and one access point via Avenue Louis Pasteur via the existing Vanderbilt driveway⁶
- o approximately one-third of the entering trips will occur via Binney Street, one-third will occur via Blackfan Street, and the remaining third will be split between the new Longwood Avenue entrance and the Avenue Louis Pasteur entrance
- o there will be three egress points, two from Longwood Avenue at Binney and Blackfan Streets, and one via the Vanderbilt driveway onto Avenue Louis Pasteur
- o approximately 60 percent of exiting traffic will take place on Blackfan Street with the remaining trips split between Binney Street and Vanderbilt driveway.

Presented below is a summary of the intersection level of service for three intersections along Longwood Avenue. Shown are the volume-to-capacity ratio, the average delay for all motorists traveling through the intersection (in seconds), and the overall level of service, designated by a letter grade which can range from A (free-flow) to F (congested), and is primarily based on average delay.

As shown, the net effect of the proposed increase in parking supply will not degrade intersection level of service on Longwood Avenue at the major intersections with Huntington Avenue, Brookline Avenue, and Blackfan Street. At Huntington Avenue and Longwood Avenue, the intersection operations can be improved by retiming the traffic signal to respond to traffic volumes, resulting in an improvement from LOS F to LOS E in both peak hours.

INTERSECTION LEVEL OF SERVICE SUMMARY

	Morning Peak Hour			Evening Peak Hour		
	<u>V/C</u>	<u>Delay</u>	<u>LOS</u>	<u>V/C</u>	<u>Delay</u>	<u>LOS</u>
<u>Brookline/Longwood</u>						
Existing	0.74	19	C	0.74	33	D
Future	1.05	37	D	0.97	30	D
<u>Longwood/Blackfan</u>						
Existing	0.46	12	B	0.53	13	B
Future	0.50	13	B	0.61	13	B
<u>Longwood/Huntington</u>						
Existing	1.02	>60	F	0.97	>60	F
Future	1.03	>60	F	1.03	>60	F
Mitigated	1.07	41	E	1.04	40	E

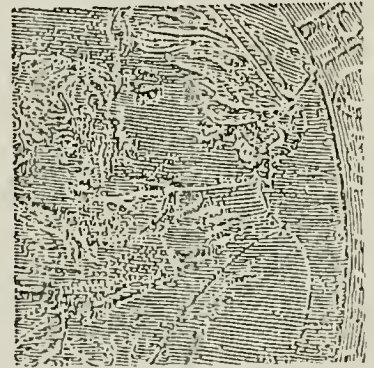
Bennett St
 V/C = Volume-to-capacity ratio, delay is in seconds, LOS = Level of Service

Mitigation

As described earlier in this chapter, Children's has actively participated in the implementation of a number of mitigation strategies aimed at better managing the demand for transportation and in improving overall transportation conditions in the LMA. In order to continue to mitigate the impacts of growth at Children's, the following are some of the suggested mitigation strategies to be pursued over the coming years:

- o Children's will continue to be an active participant in CommuteWorks with the intention of reducing the percentage of employees who commute alone by automobile.
- o During the period of construction for both parking facilities, Children's will be required to carefully manage the parking system to ensure that patients and visitors have adequate parking. This may require that employees be assigned to additional off-site facilities. In addition, Children's and its construction contractor will work with the Boston Transportation Department to develop a construction traffic management plan.
- o When completed, the proposed Blackfan and Clinical parking areas and the existing 333 Longwood parking area will contain signage that encourages the use of appropriate entrances/exits to minimize traffic impacts.

- o Children's remains and will remain committed to the numerous ongoing mitigation measures in the LMA. These include MASCO-sponsored initiatives such as improve parking enforcement and intersection improvements and Children's-sponsored initiatives such as transit pass subsidies and internal parking management.



8 Environmental Impacts

8.0 ENVIRONMENTAL IMPACTS

8.1 GEOTECHNICAL IMPACTS

Geotechnical investigations for projects surrounding the site of the Patient and Visitor Parking/Ambulatory Care Building projects have revealed relatively similar soil conditions. These projects include the Enders addition (south of Longwood), the Longwood North Garage (west of the site) and the Emmanuel Deck (north of the site). In general, there appear to be a series of strata extending down to about 40 feet below grade consisting of:

- o Miscellaneous fill
- o Organic soil
- o Marine deposits -- clays and silty sands

None of these strata provide adequate bearing capacity for structures of the sizes contemplated. Underlying them at approximately 40 feet below grade is a strata of glacial till (very dense medium to fine sand, silt, little clay, trace gravel) which is capable of bearing the structural loads. Thus, it appears both practical and economically desirable to build four levels of parking below grade, then bearing the structure on the glacial till.

Excavation should be possible with standard equipment, and should not require blasting.

Groundwater is typically encountered 9-14 feet below the surface. Thus, below grade levels will need to be water protected, and ground water levels adjacent to the proposed structures will need to be carefully monitored to ensure that they are not altered in ways which affect foundations of adjacent buildings.

8.2 SOLID AND HAZARDOUS WASTE IMPACTS

Children's Hospital currently generates approximately 1,924 tons of solid waste annually, a figure that is being reduced by an aggressive program of recycling materials that is being implemented in stages under the guidance of an in-house conservation committee:

- o White paper recycling began in August 1990, and by February 1991 all buildings were enrolled in the program. The projection is that at least 77 tons will be recycled annually.
- o Cardboard recycling was recently instituted.
- o Because of the difficulty of recycling colored paper, a program to reduce its use is in force. A reduction of at least 5 tons of colored paper is being projected.
- o A plastics recycling program began in Enders during summer 1991. It will be evaluated to determine the possibility of extending it to other areas of the hospital.

A total of 416 tons of infectious/medical wastes are disposed of annually through licensed contractors.

The proposed Ambulatory Care Building will undoubtedly increase the amount of solid wastes generated, and will slightly increase the quantity of infectious/medical wastes. However, until the final program of the facility is established precise estimates cannot be made. With a net increase of approximately 100,000 sf on the site (after demolition of Gardner), a straight line projection of wastes would suggest an increase of 137 tons of solid waste. More than half of this increment will be offset by recent conservation efforts.

8.3 AIR QUALITY IMPACTS

As the traffic projections indicate, levels of service at critical intersections are expected to be adequate. Experience with air quality analysis of transportation facilities suggests that air quality is likely to meet current and future standards as long as intersections perform at the levels predicted.

A concern for potential downwash effects from the MATEP stack was voiced at the time of construction of the expansion of Enders. Extensive studies of this structure indicated that its massing and distance from the stack placed the structure beyond the zone of potential influence of fumes. Since the Vertical expansion of the inpatient building will be of a roughly similar height and distance from the MATEP stack, it should also be beyond the zone of influence if its floor sizes are approximately the size recommended. Proposed structures north of Longwood Avenue will be well below the zone of influence.

8.4 SUNLIGHT AND DAYLIGHT IMPACTS

Shadow impacts of the proposed Ambulatory Care Building, Patient and Visitor Parking project and future space which might be constructed over the parking structure have been

analyzed. Figures 8-1, 8-2, and 8-3 indicate, respectively, the shadows at 9 AM, 12 noon and 3 PM on three dates -- the longest day of the year, June 21, the fall equinox, September 21 and the shortest day of the year, December 21. They also indicate the increments of shadows that are attributable to the new structures, beyond the shadows cast by current structures on the site.

As the diagrams indicate, sunlight will reach the space between the two structures at noon and during early afternoon in summer through fall. During the winter months, with low sun angles will mean that the area is largely in shade.

Because of the orientation of buildings, there will be virtually no new shadows cast on the sidewalks of Longwood Avenue, which are heavily used by pedestrians.

FIGURE 8-1 SHADOWS CAST AT 9 AM BY AMBULATORY CARE/PATIENT AND VISITOR PARKING PROJECTS

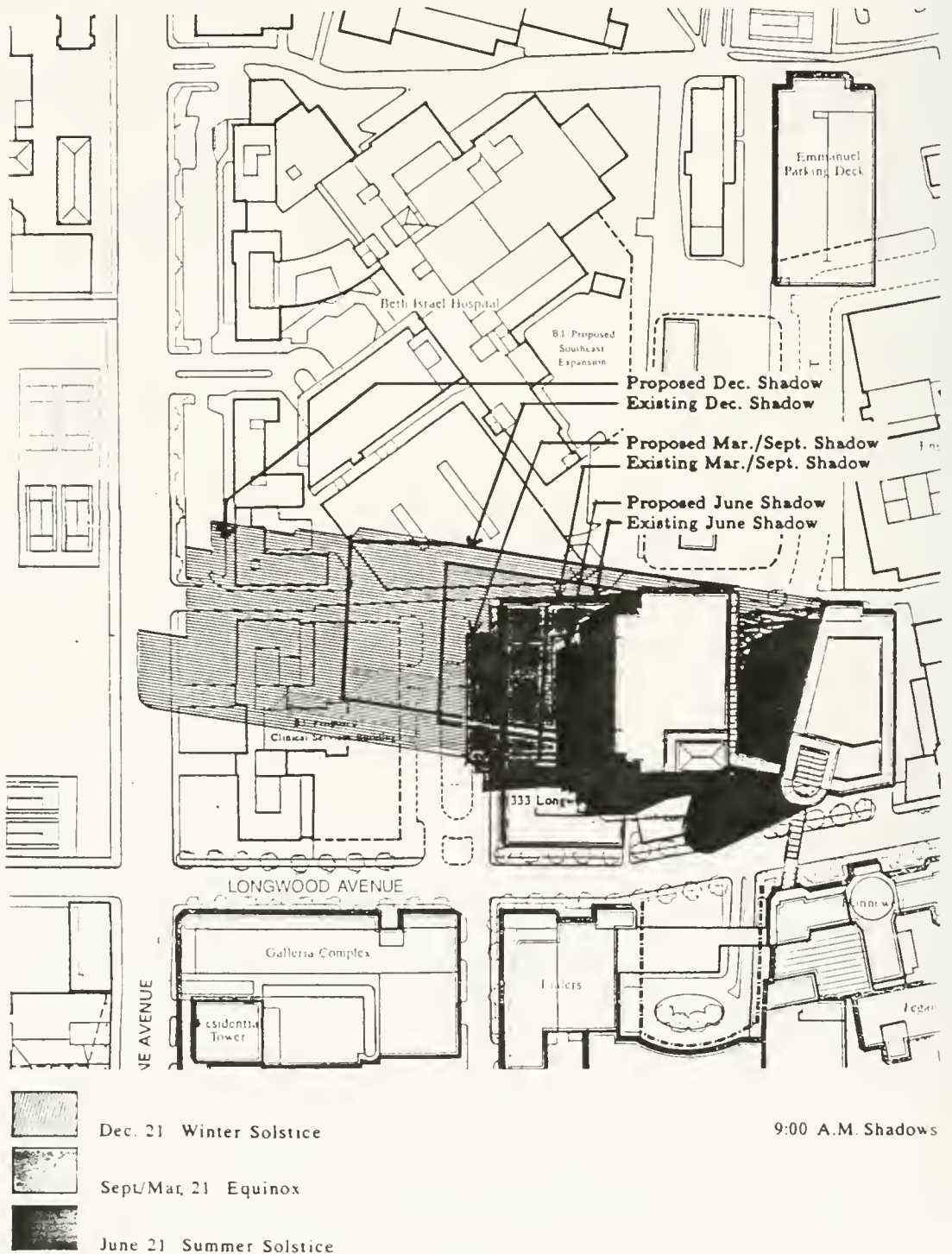


FIGURE 8-2 SHADOWS CAST AT 12 NOON BY AMBULATORY CARE/PATIENT AND VISITOR PARKING PROJECTS

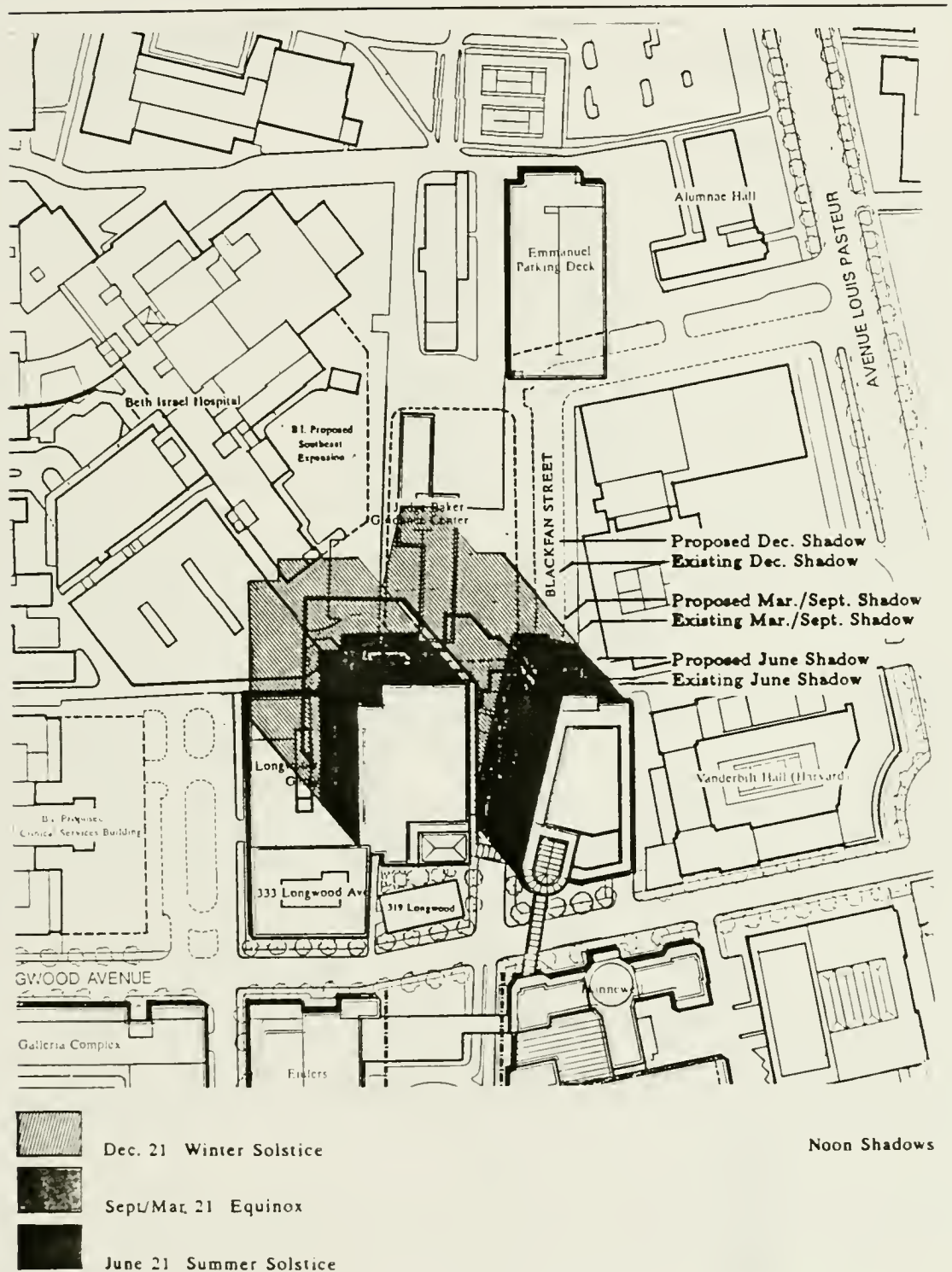
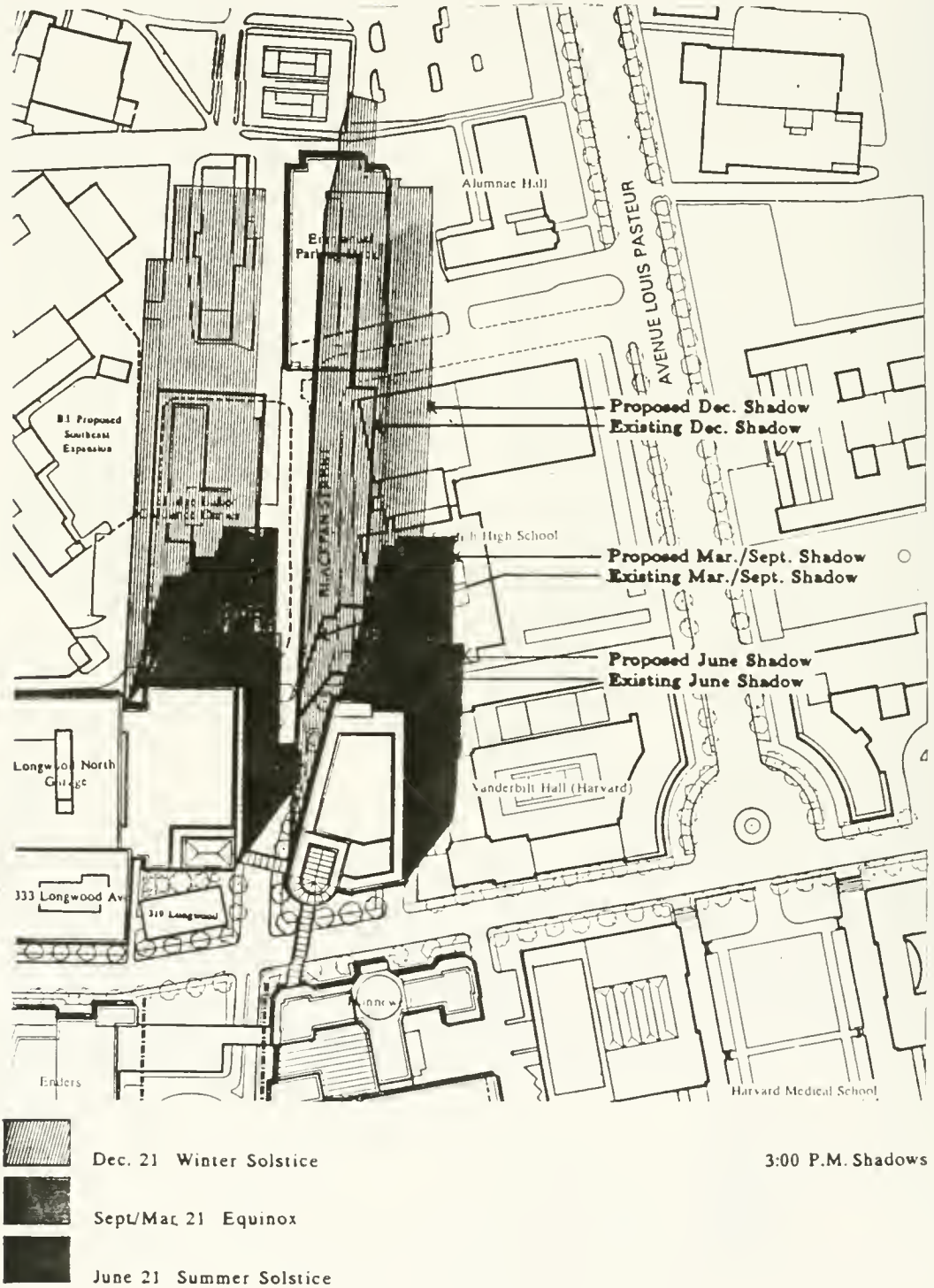


FIGURE 8-3 SHADOWS CAST AT 3 PM BY AMBULATORY CARE/PATIENT AND VISITOR PARKING PROJECTS



8.5 WIND IMPACTS

Critical wind directions for Boston are from the northwest, west and southwest directions, with winter winds predominately from the northwest and summer winds from the southwest.

The proposed Patient and Visitor Parking project will replace in a similar location the existing Blackfan Garage at a lower height than the existing structure. Similarly, the west face of the proposed Ambulatory Care Building will largely replicate the face of Gardner, although it will be slightly higher. The two structures will be sited somewhat further apart, which should have the effect of decreasing wind effects in the space between the two structures. This area does not now experience severe pedestrian level winds and the condition should not change as a result of the development. Moreover, recessing the entrance to the Ambulatory Care Building and possibly providing an arcade along the face of the structure should provide further protection from winds.

The new Main Building was shaped to minimize negative wind effects on pedestrian areas at ground level, particularly in Children's Place. Faces of the tower were angled to minimize wind effects at the corners, and the tower was stepped back from the low mass over the entrance of the structure to minimize downward deflection of winds to the pedestrian zone. The ambulance entrance was also covered to provide wind protection. The addition of five floors to the tower, as proposed in this master plan, should not change in any significant way pedestrian level wind exposure.

Pedestrians using the sidewalk between Longwood Avenue and the entrance to the Main Building should be further protected from winds by the addition of canopies, as proposed in the design guidelines for improvements to the entrance.

In the final design of structures, the potential winds at critical locations -- building entrances, corners of structures, under bridges and walkways adjacent to the faces of tall structures -- will be carefully considered.

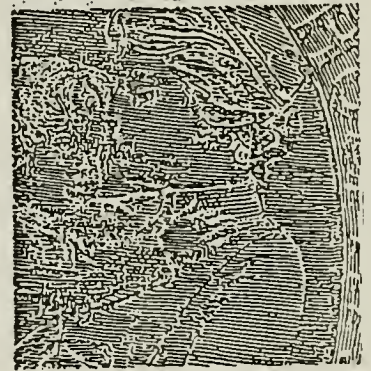
8.6 CONSTRUCTION IMPACTS

The proposed Patient and Visitor Parking project and the Ambulatory Care Building will be constructed through a carefully phased schedule over approximately 5 years to minimize the disruption and construction impacts on users of Children's Hospital and the Longwood Medical area. The following steps will be taken to minimize impacts:

- o **Parking Displacement.** Demolition of Gardner will provide a surface lot for temporary parking of patients and visitors, which should accommodate approximately 300 cars with valet operation. In addition, Children's currently

leases 178 spaces in the Longwood North Garage for staff, which will be relocated to other existing lots during the construction process. Approximately 140 cars can be accommodated on Harvard parking areas adjacent to English High and Vanderbilt Hall (both areas are currently managed by Children's and are not required by Harvard). Thus, over 600 spaces will be made available for patients and visitors, virtually replacing the current inventory. Upon completion of the 650 space Patient and Visitor Parking replacement project, construction will begin on the Ambulatory Care Building, with the Harvard lot used as a staging area.

- o **Traffic Impacts.** A tower crane will likely be used for the construction of the Ambulatory Care Building, and the area between the proposed structure and Longwood Avenue should serve as an ample staging area. Thus, there should be no need to close any portion of Longwood Avenue during the construction process. The Patient and Visitor Parking project should be able to be constructed using Blackfan Avenue as the staging area. Trucking of debris will be done off-hours to minimize traffic impacts and deliveries of steel and other bulky materials will be scheduled to minimize disruption during peak hours.
- o **Foundations and Ground Water.** Foundations of adjacent buildings will be protected by sheet piling or other techniques. Ground water levels will be monitored to detect any changes as a result of excavation below the water table. If a significant drop is recorded, mitigating measures will be taken. Experience with adjacent projects suggests that open pumping of excavated areas should be adequate to allow construction to proceed.
- o **Noise and Vibration.** Piling will be avoided in close proximity to existing structures, particularly residential or patient care facilities. Construction hours will be limited and coordinated with abutters schedules. Noise levels will be mitigated to the extent possible.
- o **Dust.** Demolition will be watered down to minimize dust. Trucks will be washed on site, and care will be taken to ensure that containers are properly enclosed before moving off site.
- o **Construction Coordination.** Children's has for many years been an active participant in MASCO's construction coordination meetings, and through them will ensure that construction activities are timed to minimize disruption of Longwood Medical Area institutions and the surrounding Fenway and Mission Hill communities.



9 Infrastructure Impacts

9.0 INFRASTRUCTURE IMPACTS

9.1 SEWER AND WATER IMPACTS

Storm runoff from the site should not markedly increase as a result of the proposed projects, since the area is largely impervious surfaces today. The storm drain system for the area appears to be adequate. However, with construction of the proposed garage below Blackfan Street, all utilities currently running in the street will need to be relocated into a utility corridor through the structure.

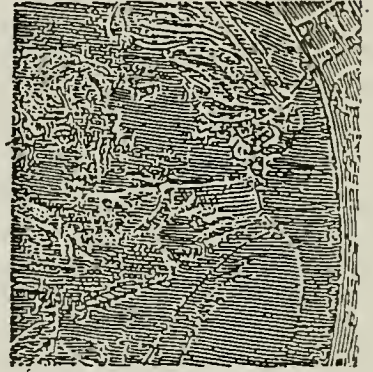
With a net increase of approximately 100,000 sq ft when the Ambulatory Care Building replaces Gardner, water requirements should increase by 30,000 g per day, and sewer service should increase by approximately 50,000 g per day. Existing sewer and water lines in Blackfan Street and Longwood Avenue appear to have sufficient capacity to service that demand. Moreover, the hospital is in the midst of a major water conservation program, driven in part by the soaring cost of water and sewer services in the Boston area, and it is not unrealistic to expect that savings might balance off the new requirements.

9.2 ENERGY IMPACTS

Approximately 18,900 lb of high pressure steam will be required for the Ambulatory Care Building, which is approximately 10,700 lb more than currently used to heat Gardner. The MATEP plant appears to have adequate capacity to supply this need, which will be supplied through existing lines.

Chilled water requirements for air conditioning the proposed Ambulatory Care Building should average 1 ton for each 300 sf, or a total of 600 tons. The MATEP plant is currently approaching its capacity to supply chilled water. However, when the new Main Building was built, Children's contracted for a maximum supply of 6,000 tons for all hospital buildings, which included an allowance for the vertical expansion of the Main Building. Children's currently uses 5,100 tons, leaving 900 tons for future projects -- more than what is required for the Ambulatory Care Building.

Electrical supply for the Ambulatory Care Building would be approximately 2700 kw (@15 w/sf), with approximately 2200 kw required (@5 w/sf) for the underground and above grade parking facilities. MATEP appears to have capacity to supply this. However, a new transformer will need to be constructed as part of the projects north of Longwood to service these buildings.



10 Impacts on Historic Resources

10.0 IMPACTS ON HISTORIC RESOURCES

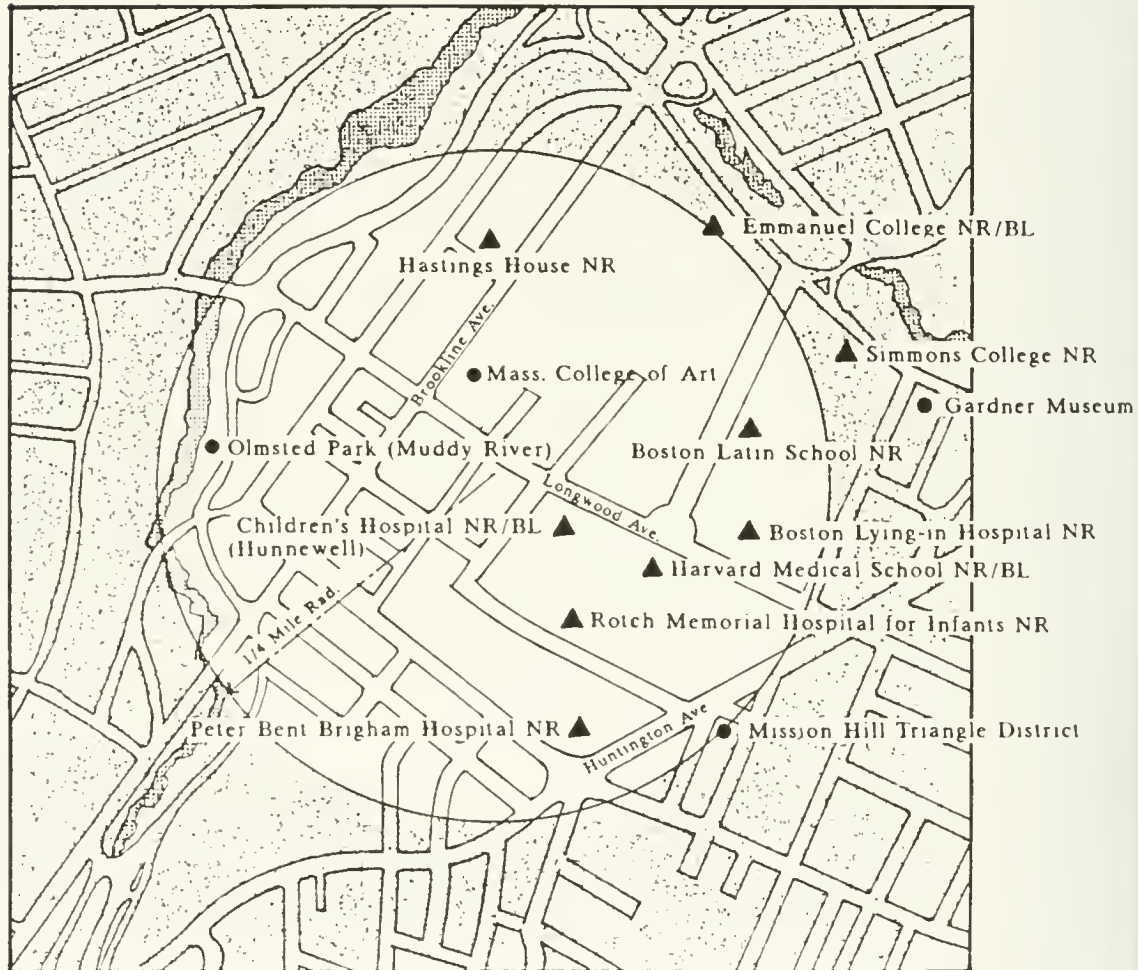
10.1 AREA HISTORIC RESOURCES

Two historic districts and four landmark structures are located within a 1/4 mile radius of the main campus of Children's Hospital. These include:

- o **Olmstead Park System** -- encompasses the Back Bay Fens, the Muddy River, Olmstead Park, Jamaica Pond, Arborway and Franklin Park. It is a National Historic Landmark.
- o **Mission Hill Triangle District** -- includes the 2+ block area west of Huntington Avenue, fronting on Wigglesworth, Worthington, Huntington and Tremont Streets. The district is listed on the National Register of Historic Places.
- o **Sears Building** -- the original Sears Roebuck and Co. mail order store at 309 Park Drive, being converted to Olmstead Plaza. The structure is a City landmark and is listed on the National Register of Historic Places.
- o **Isabella Stewart Gardner Museum** -- located at 280 The Fenway. The building is listed on the National Register of Historic Places.
- o **Massachusetts College of Art Building** -- located at Longwood and Brookline, to be incorporated in the Beth Israel Hospital ambulatory care center. The building is listed on the National Register of Historic Places.
- o **Timothy Hoxie House** -- located at 135 Hillside Street, Mission Hill. The building is listed on the National Register of Historic Places.

In addition, preliminary surveys by the City Landmarks Commission staff indicate that a number of additional structures in the Longwood Medical Area meet the criteria for listing on the National Register. These include the Hunnewell Building on Children's main campus, and Buildings A, B, C, D, and E of the Harvard Medical School, located at 230 and 240 Longwood Avenue and 25 Shattuck St, noted as qualifying as a National Register District.

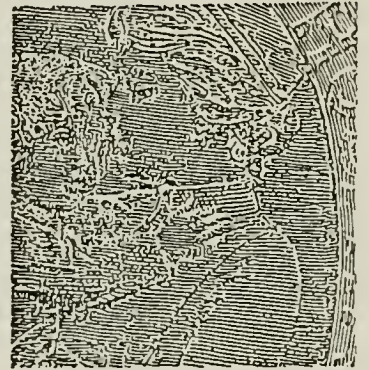
FIGURE 10-1 LANDMARK STRUCTURES WITHIN 1/4 MILE RADIUS OF MAIN CAMPUS



- - Designated National Register Property
- ▲ - Qualifies for National Register and/or Boston Landmark Designation
- BL - Boston Landmarks Commission
- NR - National Register

10.2 IMPACTS ON HISTORIC RESOURCES

Proposals in the master plan should not have a negative impact on current landmark structures. The only landmark structure presently visible from the main campus is the Massachusetts College of Art Building. The proposed Ambulatory Care Building will be located and designed so as to maintain the scale of Longwood Avenue and blend harmoniously with current and potential landmark structures.



APPENDIX A--Existing Building and Site Inventory

APPENDIX A

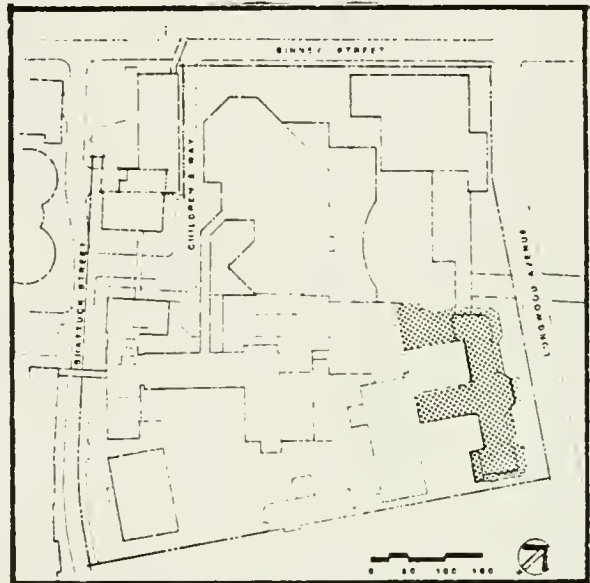
EXISTING BUILDING AND SITE INVENTORY



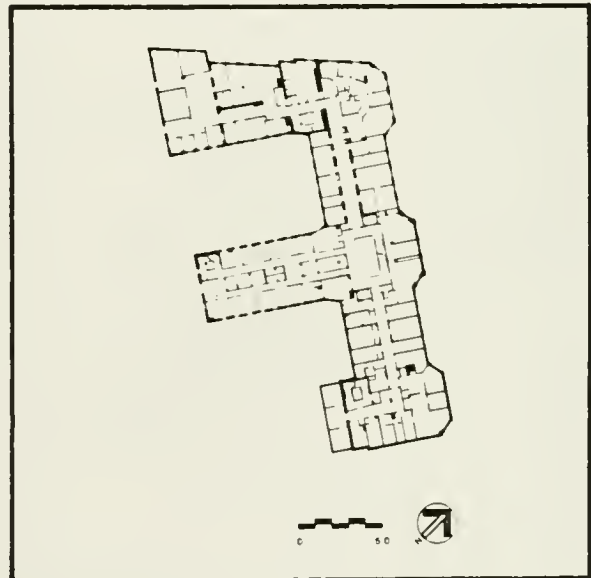
HUNNEWELL BUILDING

HUNNEWELL BUILDING

Year built:	1914
Structural Type:	Steel/Masonry
Occupancy:	Outpatient Clinics, Physicians Offices, Administration
Gross Area:	123,000 s.f.
No. of Floors:	5 + bsmt.
Condition:	Structurally and physically sound, the building is adequate for office space. It is not fully code compliant.



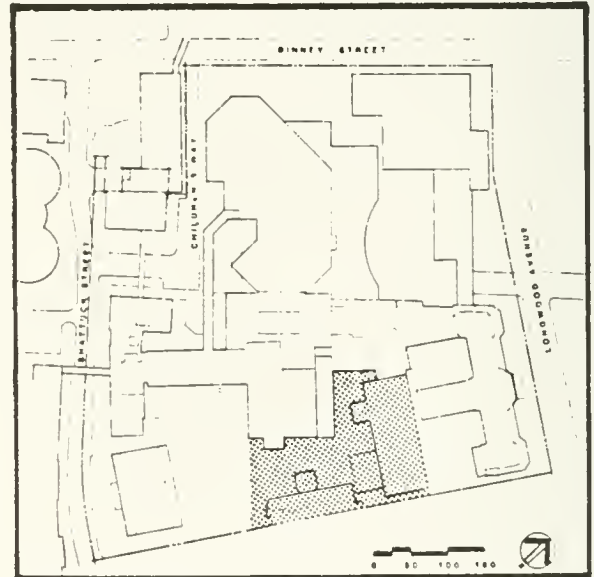
Site Location



Typical Floor Plan

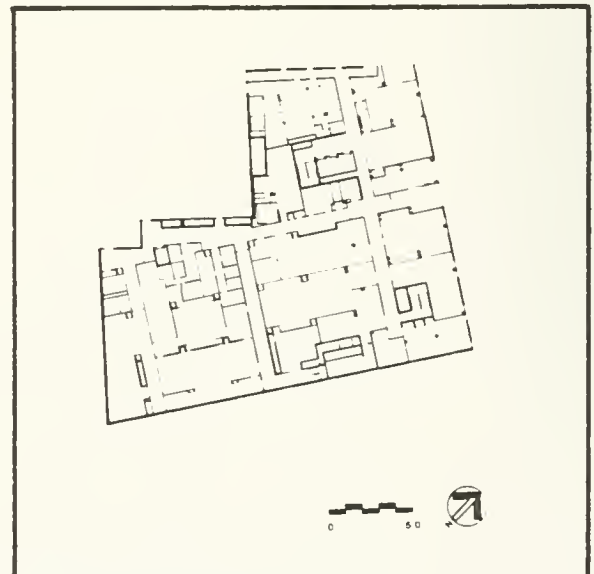


FEGAN BASEMENT



Site Location

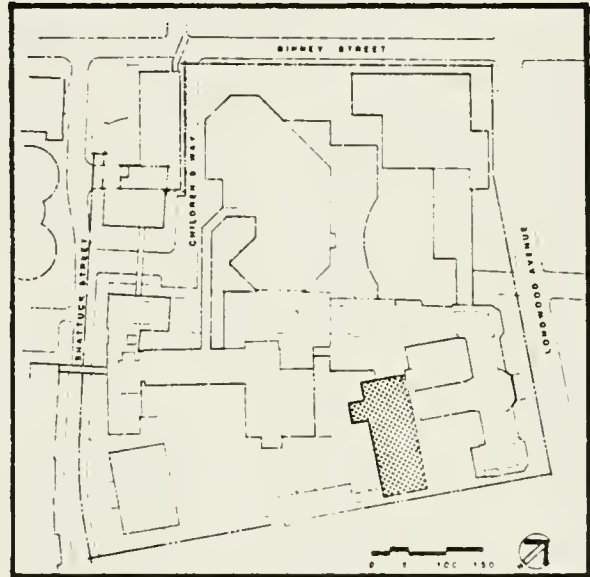
Year Built:	1966
Structural	
Type:	Concrete
Occupancy:	Support Services
Gross Area:	68,240 s.f.
No. of	
Floors:	2 below grade
Condition:	Good physical condition throughout, but needs to be sprinklered for code compliance.



Typical Floor Plan

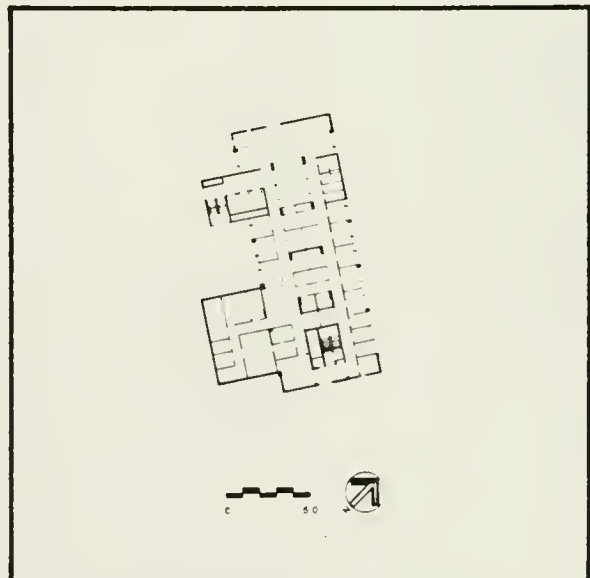


FEGAN BUILDING



Site Location

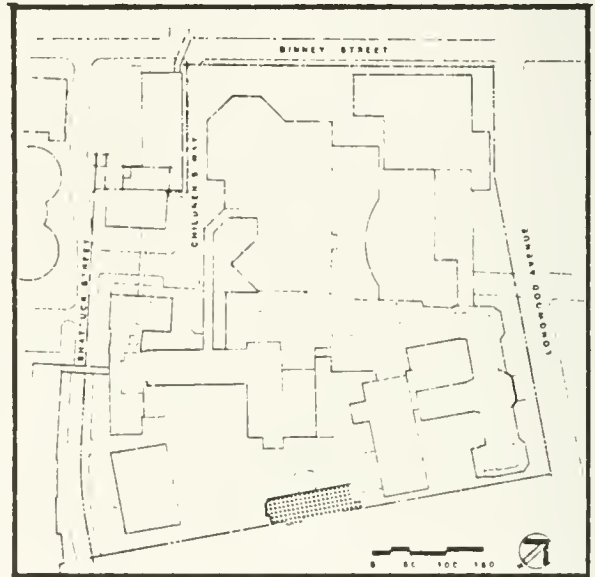
Year Built:	1966/1967
Structural Type:	Concrete
Occupancy:	Outpatient Clinics
Gross Area:	120,238 s.f.
No. of Floors:	12
Condition:	Good physical condition throughout. Needs sprinkler and fire alarm systems.



Typical Floor Plan

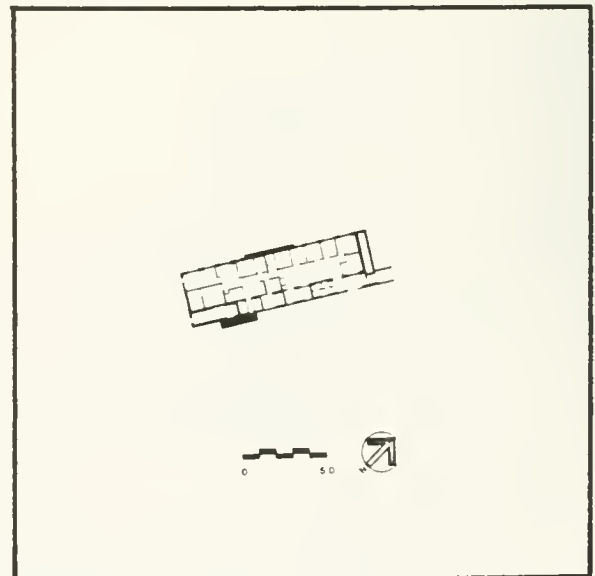


IDA C. SMITH BUILDING



Site Location

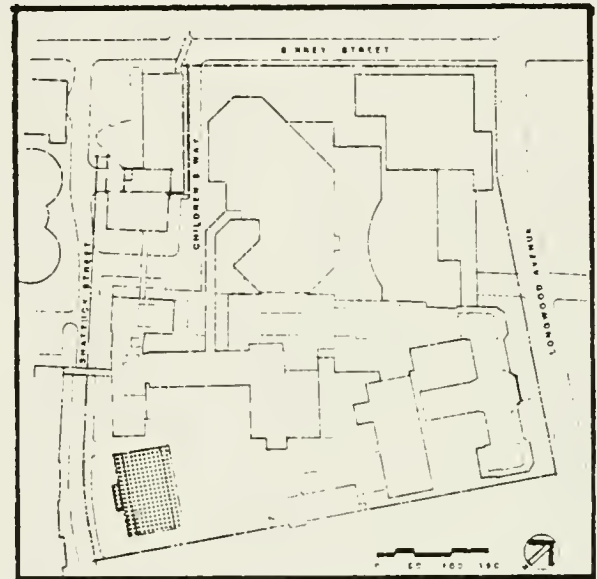
Year Built:	1924
Structural	
Type:	Masonry
Occupancy:	Outpatient Clinic
Gross Area:	3,438 s.f.
No. of	
Floors:	1
Condition:	Physically in fair condition. Handicapped access is difficult.



Typical Floor Plan

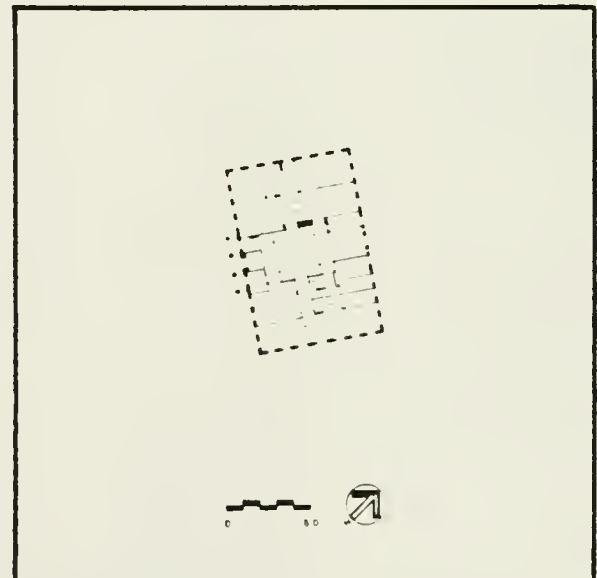


WOLBACH BUILDING



Site Location

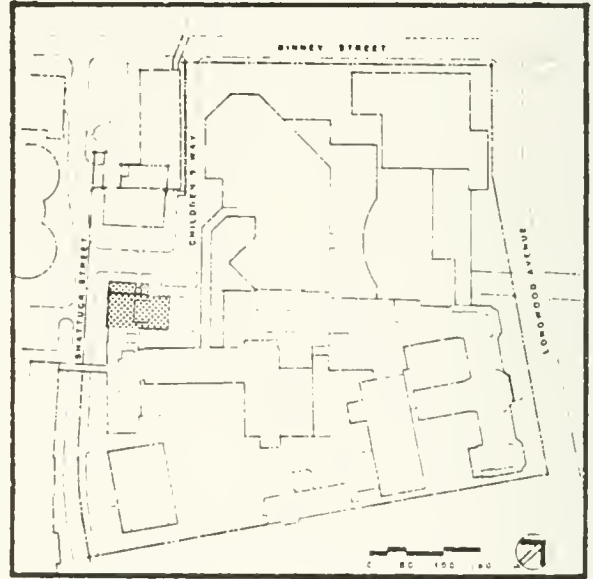
Year Built:	1914
Structural	
Type:	Steel
Occupancy:	Administration
Gross Area:	37,950 s.f.
No. of	
Floors:	4
Condition:	Structurally and physically in good condition. It is separated physically from remainder of hospital, and serves well as office space.



Typical Floor Plan

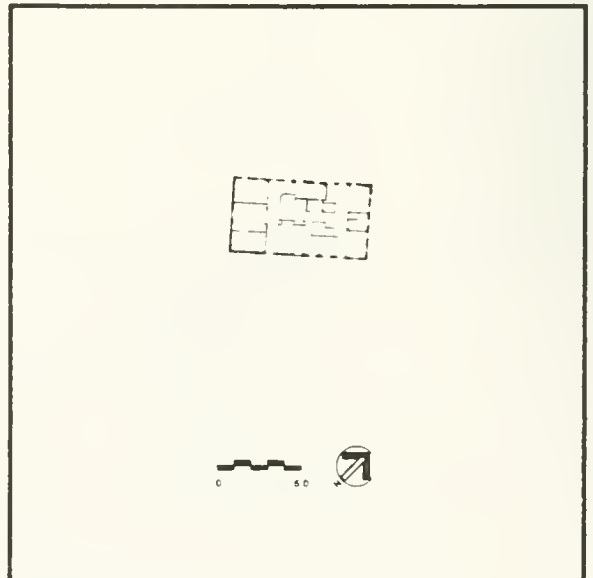


BADER BUILDING



Site Location

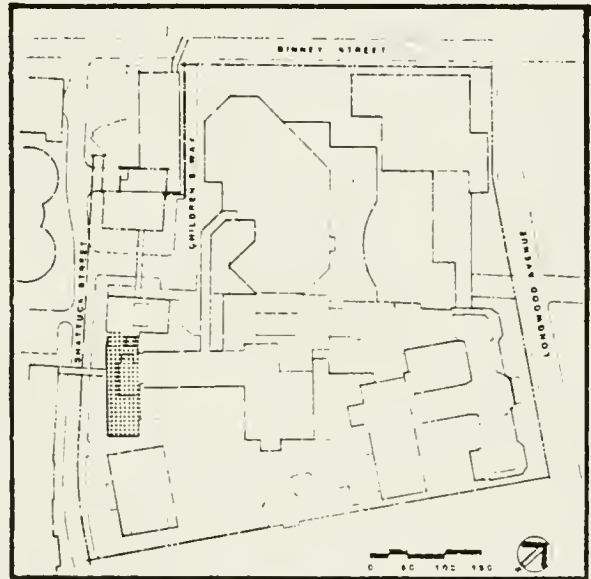
Year Built:	1930
Structural Type:	Concrete
Occupancy:	Inpatient, physical therapy, dialysis, nuclear medicine
Gross Area:	30,888 s.f.
No. of Floors	6 + partial bsmt.
Condition:	Physical condition is adequate, but will need some systems upgrading. It is inefficient for its current uses.



Typical Floor Plan

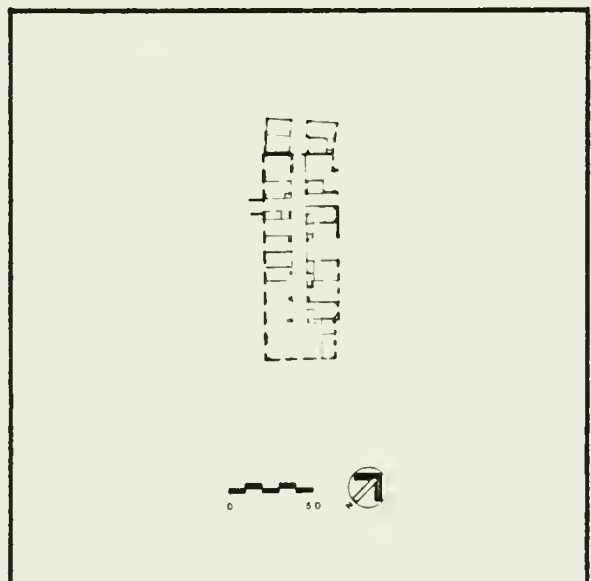


BADER (EAST) BUILDING



Site Location

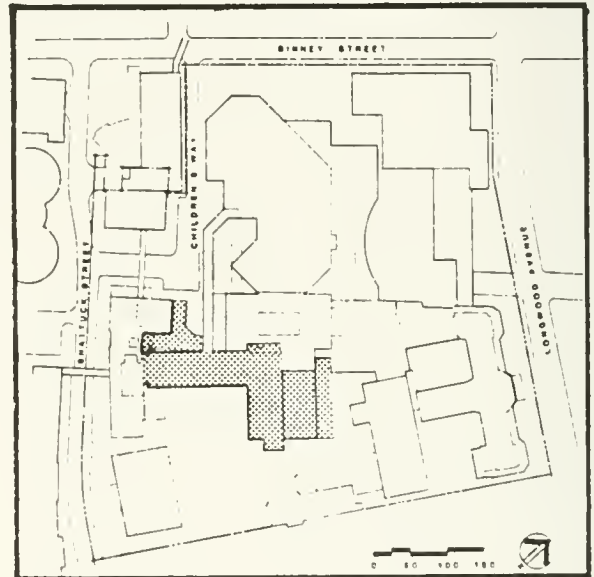
Year Built:	1930/1950
Structural Type:	Concrete Frame
Occupancy:	Pathology labs/ Inpatient Div.
Gross Area:	56,000 s.f.
No. of Floors:	7 + bsmt.
Condition:	Good physical condition, but needs some major systems upgrading.



Typical Floor Plan



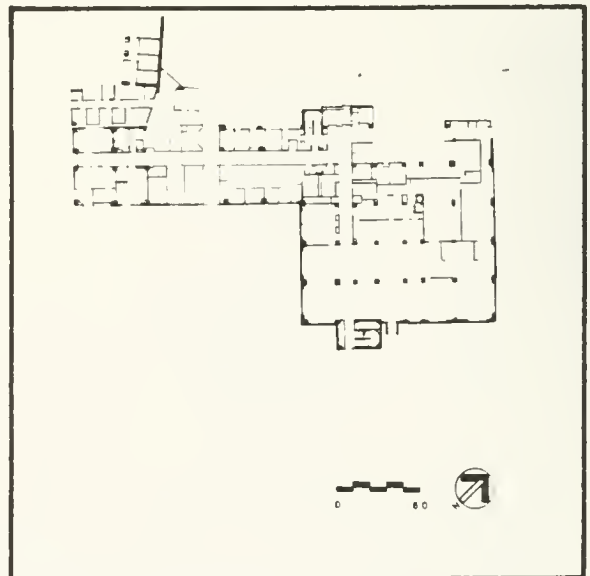
FARLEY BUILDING



Site Location

FARLEY BUILDING

Year Built:	1956
Structural Type:	Concrete Steel
Occupancy:	Cardiology, Surgery Dept., Clinical Supported Labs, Main Cafeteria, Support Services
Gross Area:	169,000
No. of Floors:	8 + 2 bsmt.
Condition:	Good physical condition.

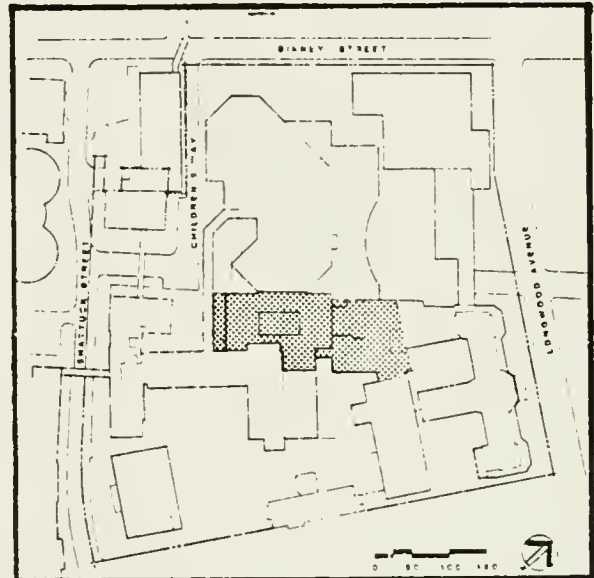


Typical Floor Plan

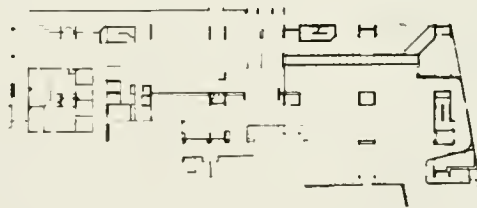


PAVILION BUILDING

Year Built: 1974/1979
Structural Type: Concrete/Steel
Occupancy: Surgery Depts., Radiology, Intensive Care, Lobby
Gross Area: 91,500 s.f.
No. of Floors: 5 + 2 bsmt.
Condition: Good condition throughout building, both physically and mechanically.



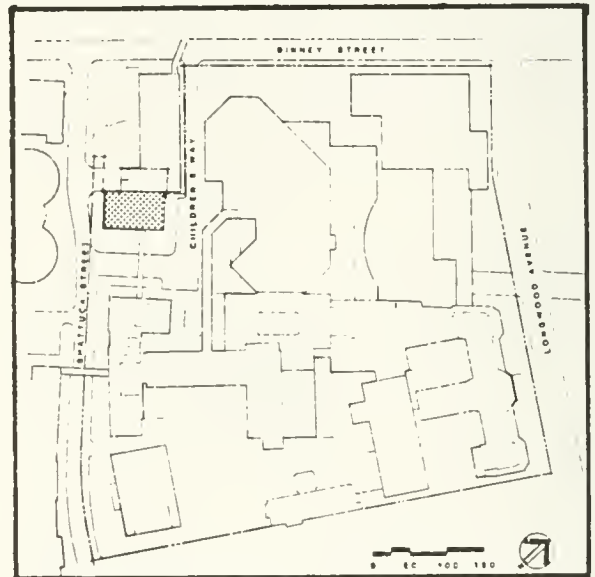
Site Location



Lobby Floor Plan

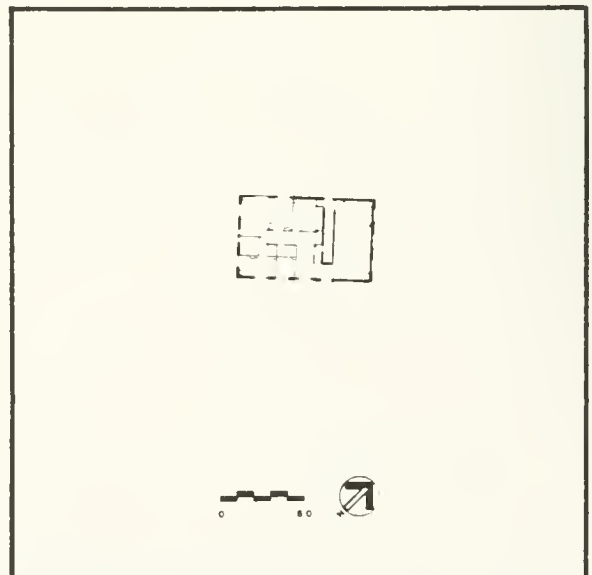


CARNEGIE BUILDING



Site Location

Year Built:	1907
Structural Type:	Steel
Occupancy:	Research, clinical labs
Gross Area:	19,967 s.f.
No. of Floors:	4 + bsmt.
Condition:	Poor Condition both physically and functionally.

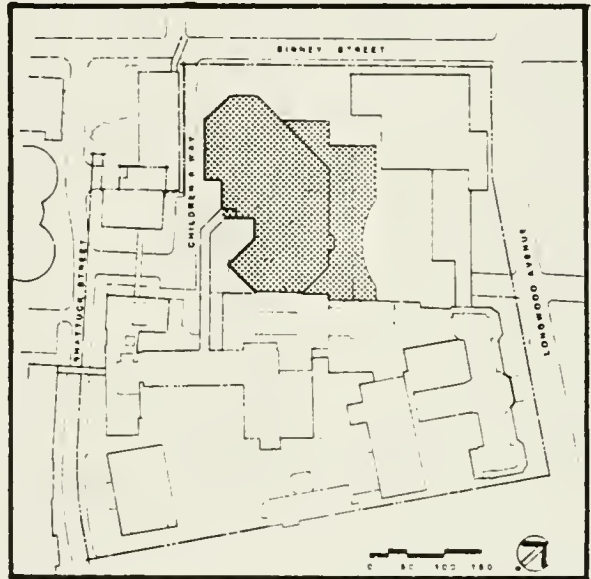


Typical Floor Plan

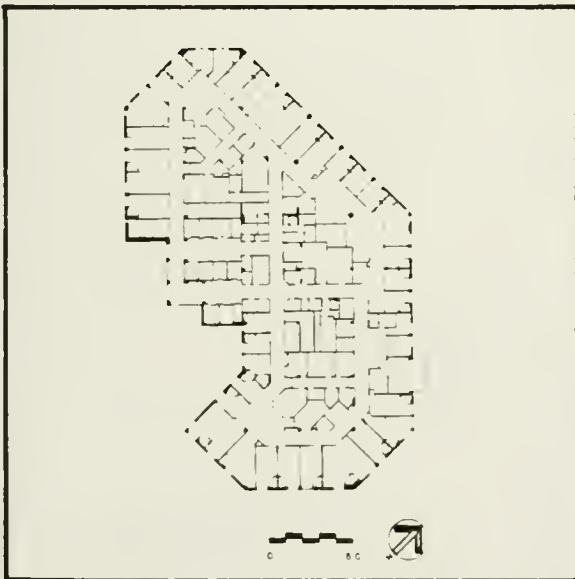


MAIN BUILDING

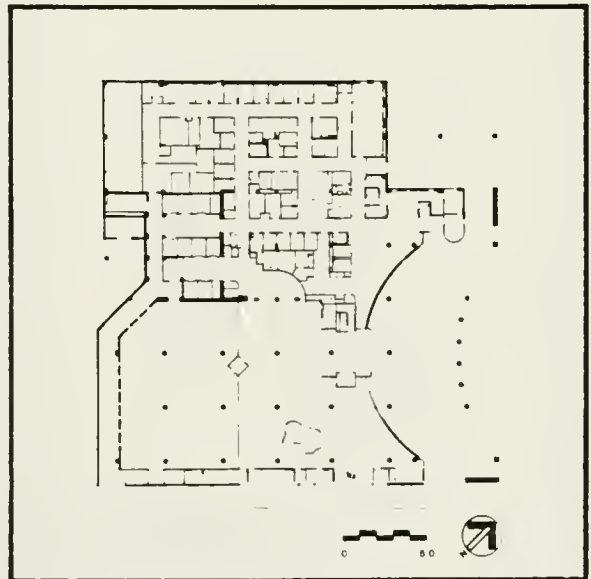
Year Built:	1987
Structural Type:	Steel Frame
Occupancy:	Inpatient Units, Surgery Suite, Radiology, Lobby, Emergency Room
Gross Area:	367,069
No. of Floors:	10 + bsmt.
Condition:	Excellent



Site Location



Typical Floor Plan 6-10



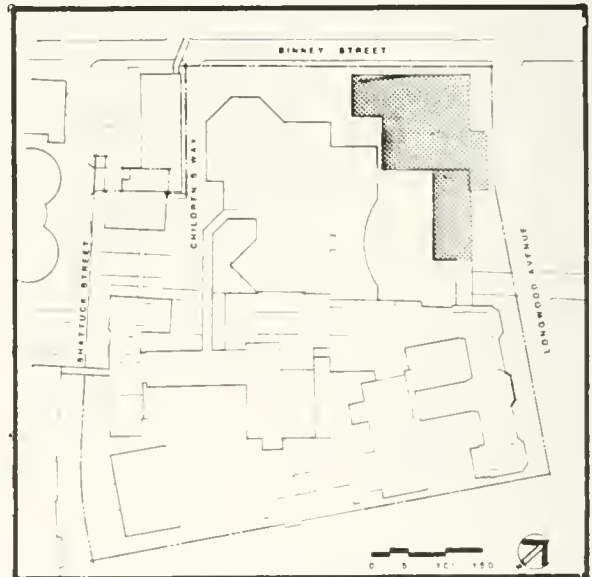
Lobby Plan



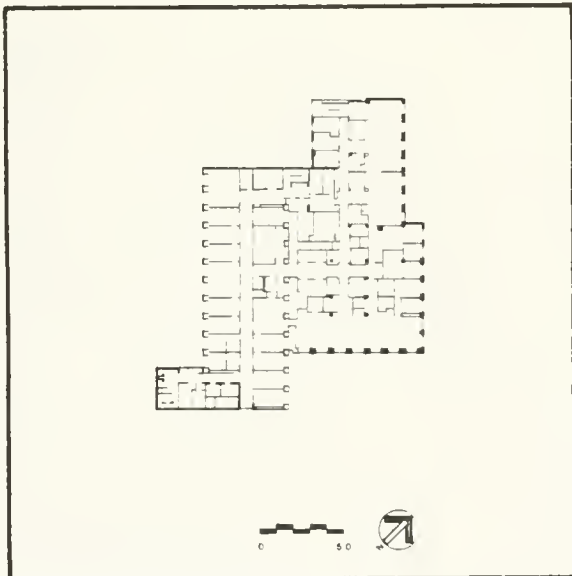
ENDERS RESEARCH LABORATORIES

ENDERS RESEARCH LABORATORIES

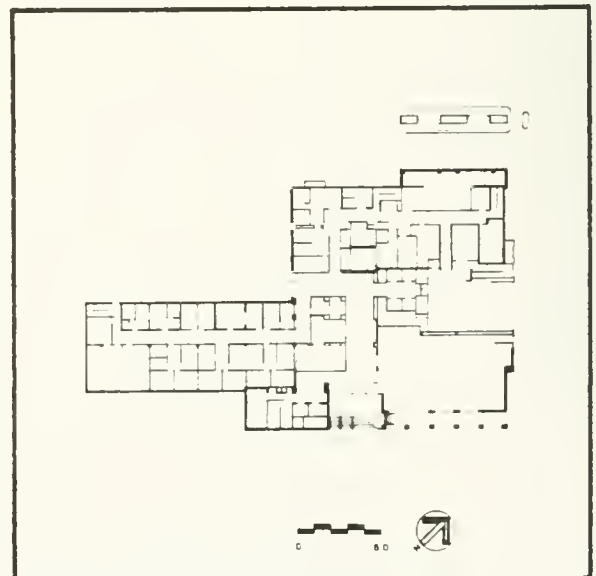
Year Built:	1971/1980/1990
Structural Type:	Poured Concrete; Addition: Steel Frame
Occupancy:	Research
Gross Area:	382,912 s.f.
No. of Floors:	14 + 2 bsmt. levels
Condition:	Good condition, with systems upgrading needed for code compliance. 1990 addition: excellent.



Site Location



Typical Upper Floor Plan



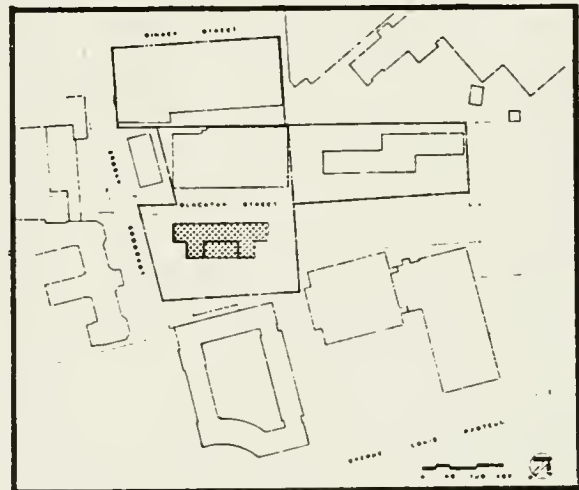
Ground Floor Plan



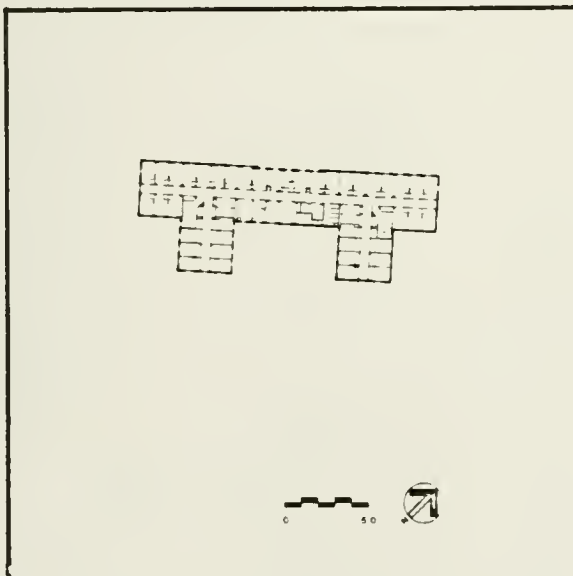
GARDNER HOUSE

GARDNER HOUSE

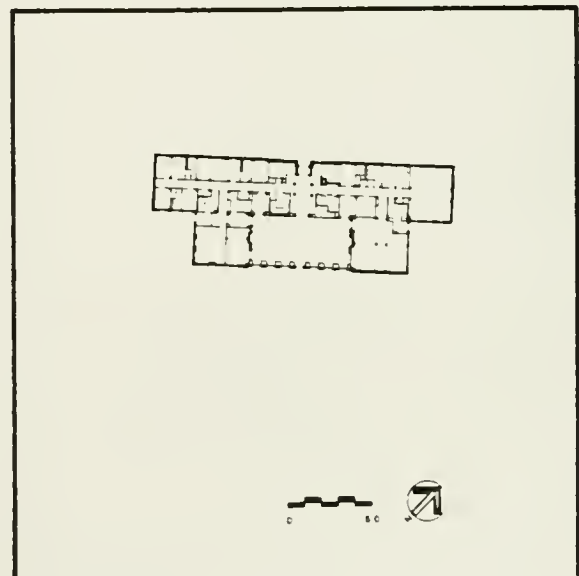
Year Built: 1930
Structural Type: Steel Frame
Occupancy: Mixed
Gross Area: 78,300 s.f.
No. of Floors: 8
Condition: Adequate physical condition, but is poorly suited for medical and office uses. Requires sprinklers and Code Upgrade.



Site Location



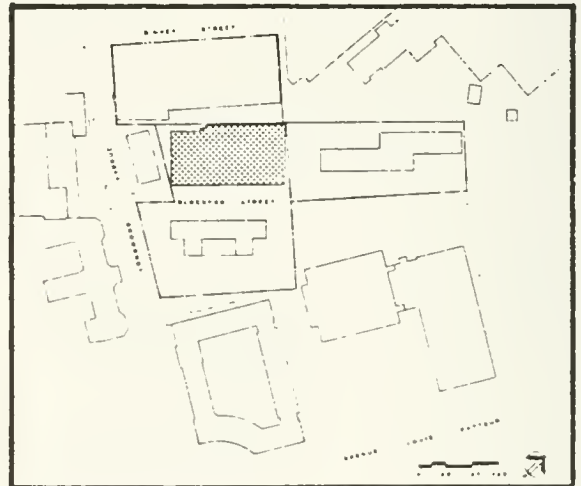
Typical Upper Floor Plan



Lobby Floor Plan



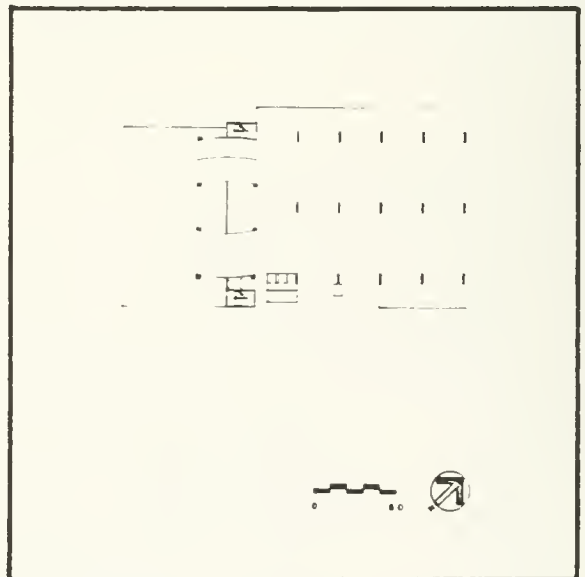
BLACKFAN GARAGE



Site Location

BLACKFAN GARAGE

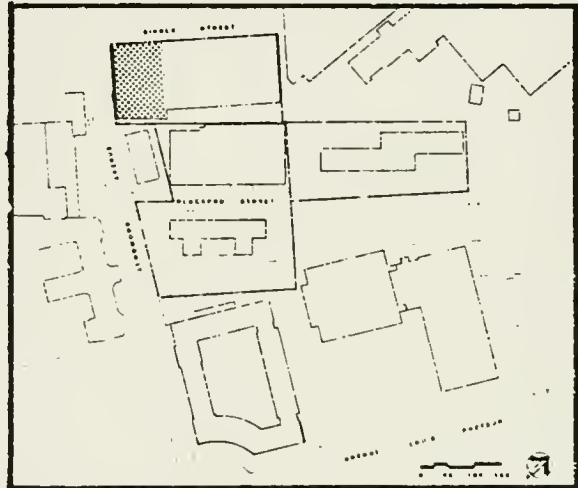
Year built:	1964
Structural	
Type:	Concrete
Occupancy:	Parking
Gross Area:	180,000 s.f.
No. of	
Floors:	7
No. of	
Parking	
Spaces:	434 <i>567 space</i>
Condition:	Poor physical condition, must be replaced by 1995.



Typical Floor Plan



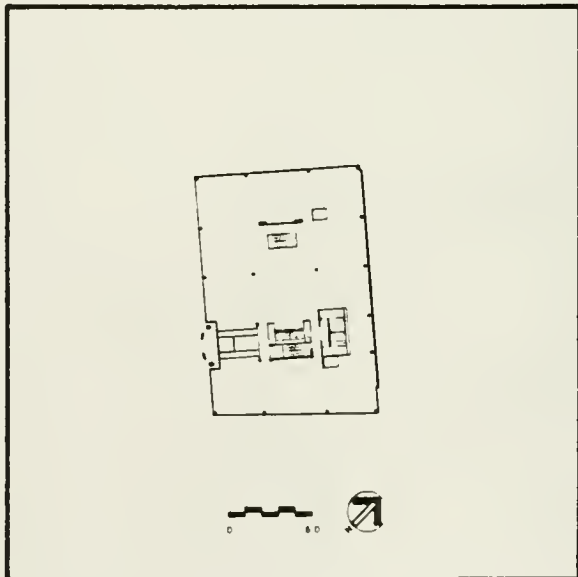
333 LONGWOOD AVENUE



Site Location

333 LONGWOOD AVENUE

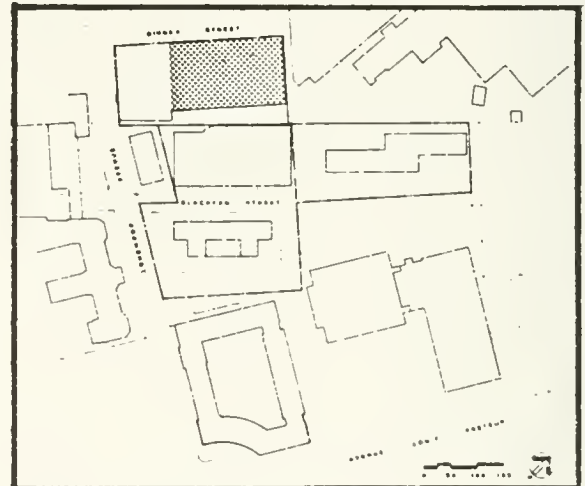
Year Built:	1984
Structural Type:	Steel Frame
Occupancy:	Rental office, retail
Gross Area:	92,000 s.f.
(Children's Occupancy):	20,800 s.f.
No. of Floors:	6 + bsmt.
Responsible Entity:	Longwood North Associates & Children's Medical Center
Condition:	Good condition physically and functionally.



Typical Floor Plan



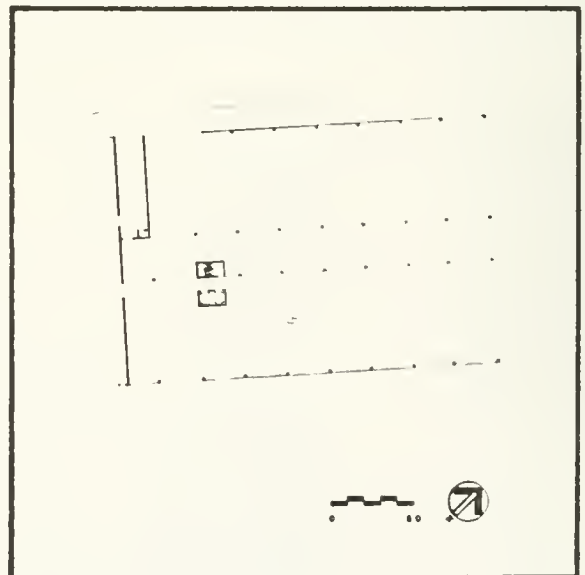
LONGWOOD GARAGE



Site Location

LONGWOOD GARAGE

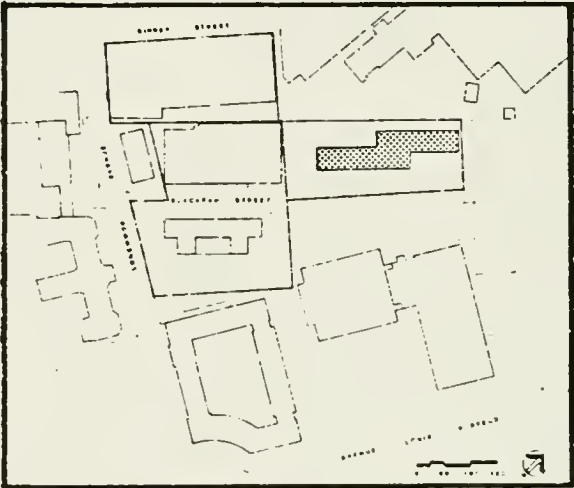
Year Built:	1984
Structural Type:	Concrete
Occupancy:	Parking
Gross Area:	150,000 s.f.
No. of Floors:	5 + bsmt.
No. of Spaces:	500 total (178 Children's)
Responsible Entity:	Longwood North Associates & Children's Medical Center
Condition:	Recently constructed, good condition.



Typical Floor Plan



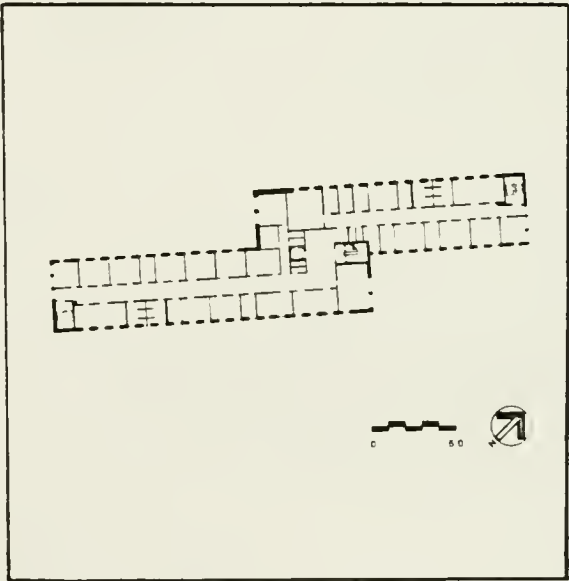
JUDGE BAKER CHILDREN'S CENTER



Site Location

JUDGE BAKER CHILDREN'S CENTER

Year Built:	
Structural	
Type:	
Occupancy:	Inpatient Div.
Gross Area:	50,000 s.f.
(Children's	
Occupancy):	10,918 s.f.
No. of	
Floors:	6
Responsible	
Entity:	Judge Baker
	(owner)
Condition:	Adequate condi-
	tion physically
	and functionally.



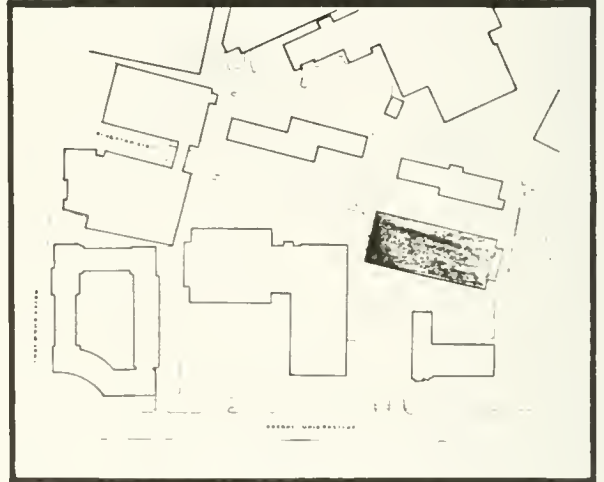
Typical Floor Plan



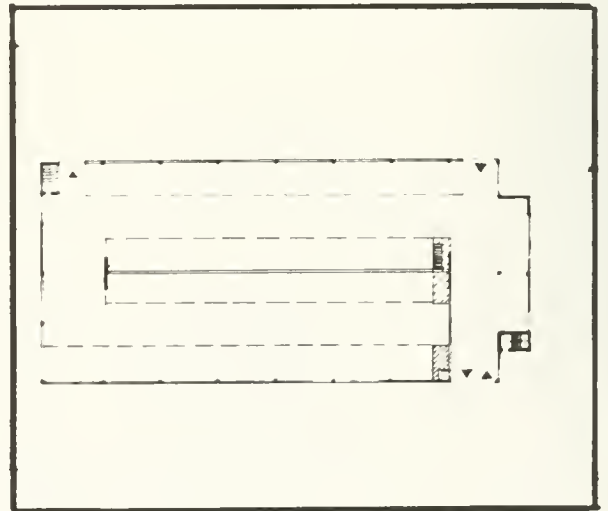
EMMANUEL PARKING STRUCTURE

Emmanuel Parking Structure:

Year Built:	1990
Structural Type:	Concrete
Occupancy:	Parking
Gross Area:	86,208 s.f.
No. of Floors:	3
Condition:	Excellent

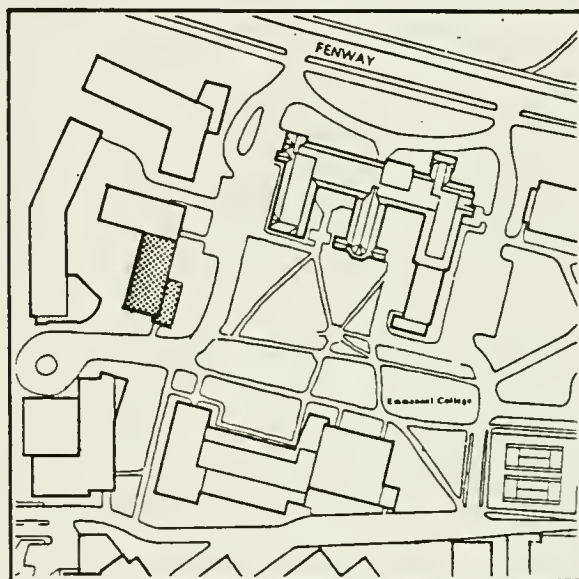


Site Location



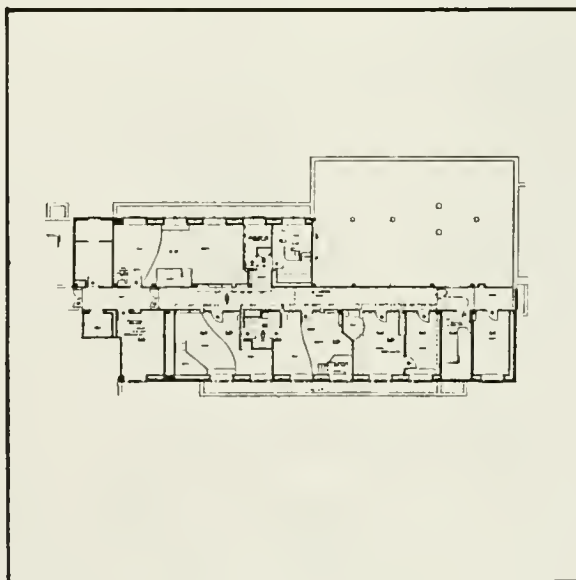
Typical Floor Plan

CHILDREN'S DAY CARE CENTER

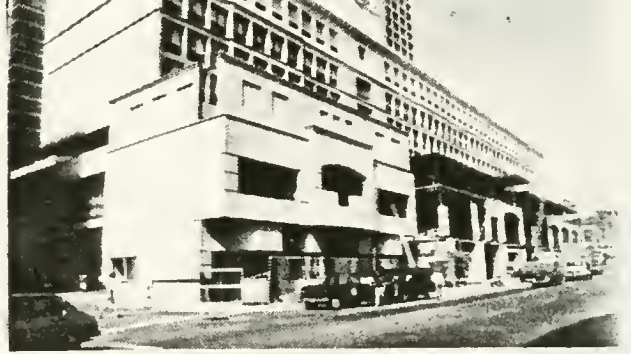


Site Location

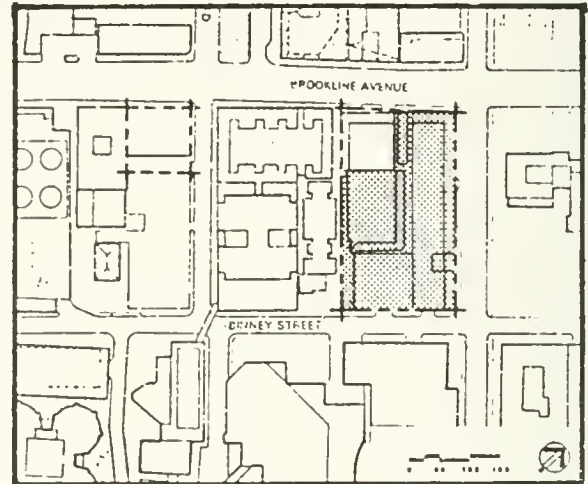
Year Built:	1990
Structural Type:	Concrete
Occupancy:	Day Care Facility
Gross area:	4160 sq. ft
Number of Floors:	1
Responsible Entity:	Leased from Emmanuel College
Condition:	Excellent.



Typical Floor Plan



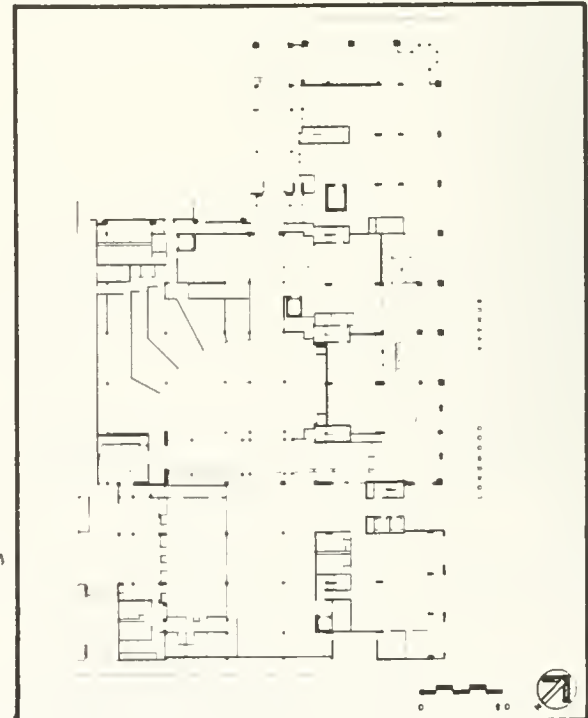
GALLERIA COMPLEX



Site Location

GALLERIA COMPLEX

Year Built: 1968/1987
 Structural Type: Concrete/Steel
 Occupancy: Inn at Children's, Offices, Retail, Garage
 Gross Area: 190,000 s.f.
 Responsible Entity: Children's Medical Center
 Condition: Good condition throughout.

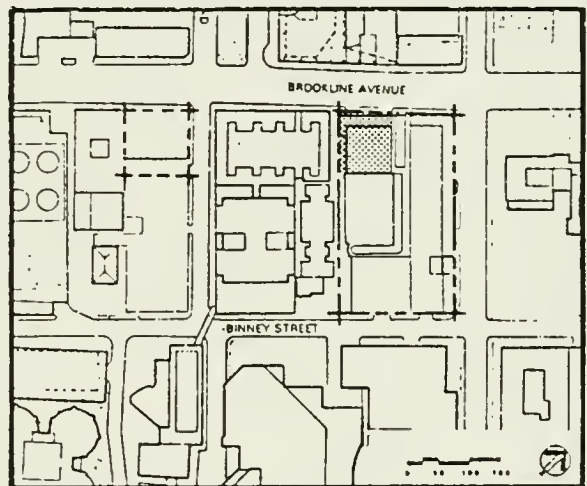


Ground Floor Plan

45,000 \$ expansion
 hotel rms 60 + 80 = 140 Rooms
 retail - 35,000 \$ New
 office 35,000 \$ - new
 incl. convention space @ 10,000 \$
 158 apt. last wing - existing
 225 sqm (1100 sq ft)

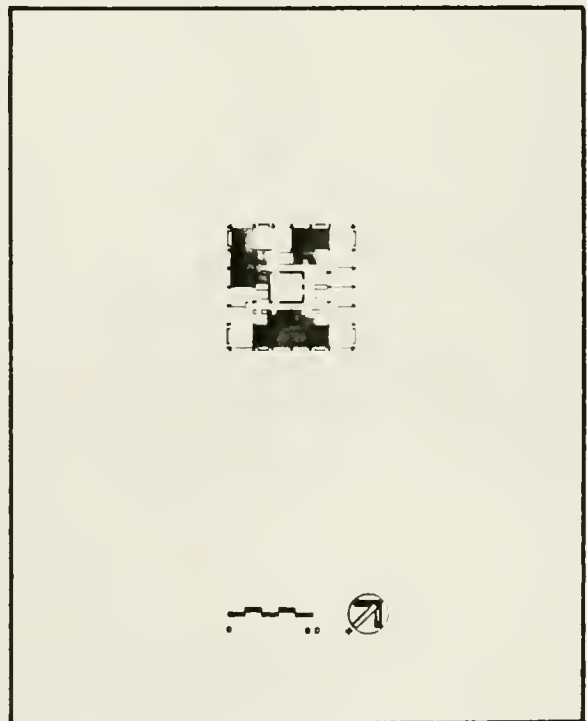


RESIDENTIAL TOWER



Site Location

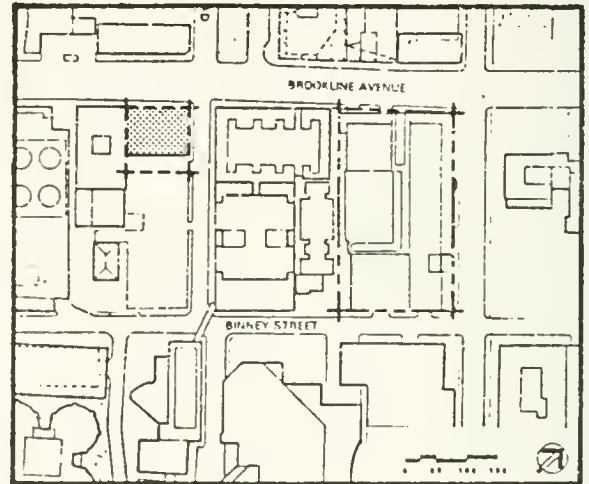
Year Built:	1968
Structural Type:	Concrete
Occupancy:	Residential
Gross Area:	122,500 s.f.
No. of Floors:	25
Responsible Entity:	Children's Medical Center
No. of Units:	154
Condition:	Good condition physically and functionally. General upkeep required to maintain this condition.



Typical Floor Plan

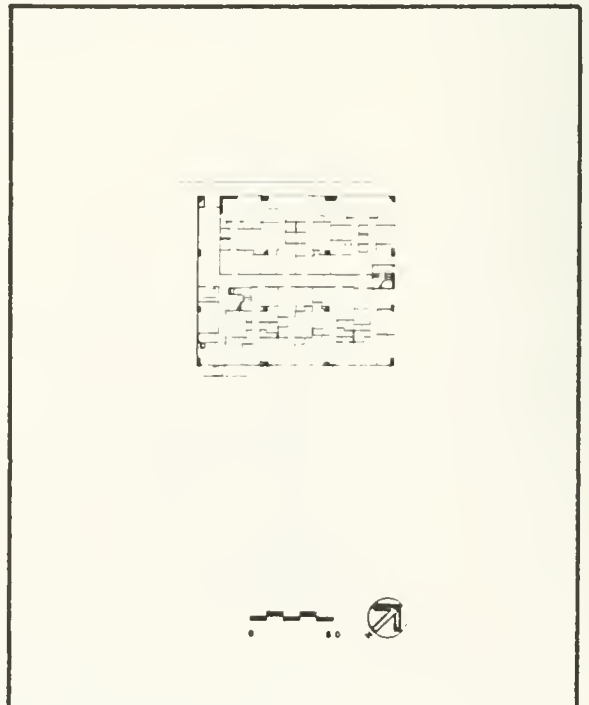


454 BROOKLINE AVENUE

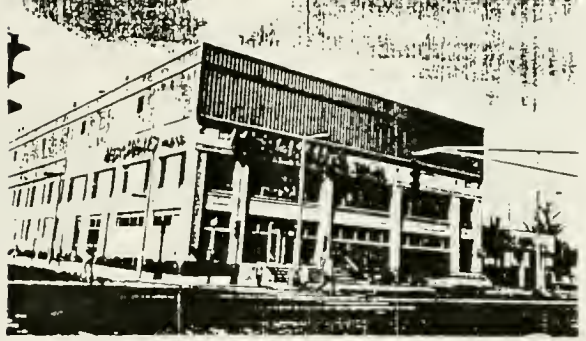


Site Location

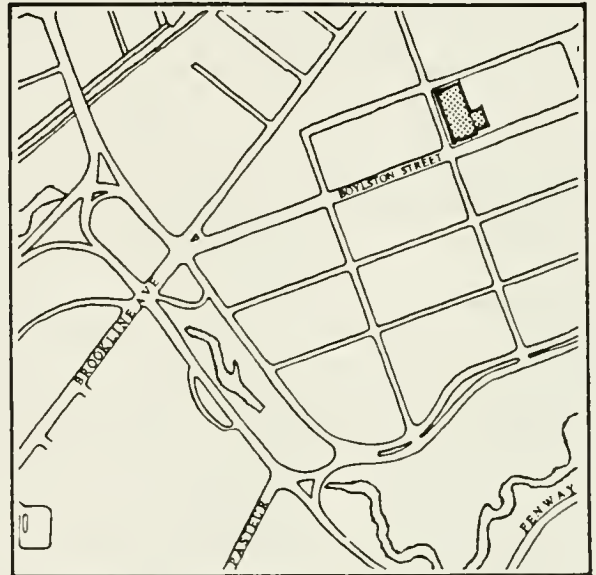
Year Built:	1930/1950
Structural Type:	Concrete
Occupancy:	Rental
Gross Area:	15,000 s.f.
No. of Floors:	2
Responsible Entity:	Children's Medical Center
Condition:	Adequate physically and functionally for office space.



Typical Floor Plan



1295 BOYLSTON STREET



Site Location

Year Built: 1923 Main Building
1958 1 Story Retail Addition
1983 Third Floor Addition

Structural Type: Concrete

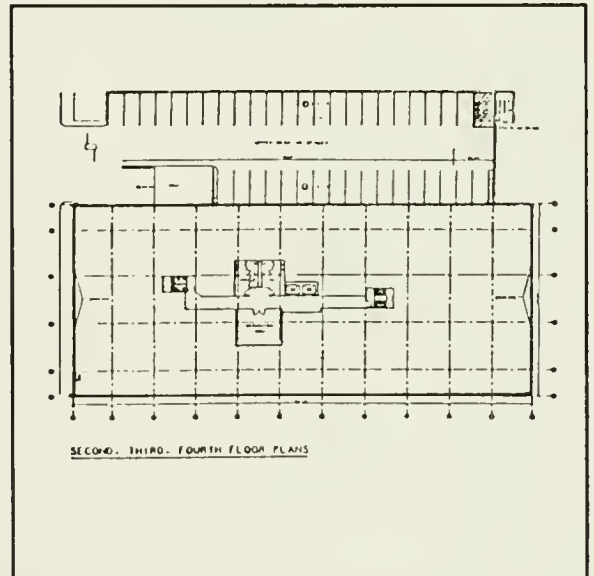
Occupancy: Office/Retail

Gross Area: 106,500 s.f.

Number of Floors: 3 + basement

Responsible Entity: Children's Medical Center

Condition: Proposed renovation for office use.



Typical Floor Plan

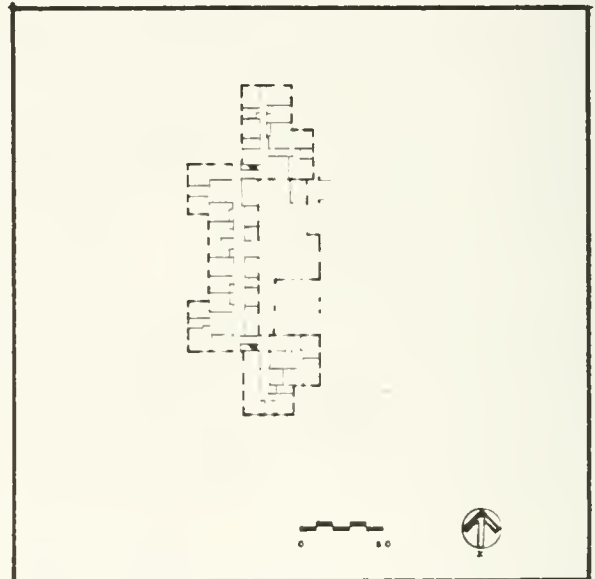


*SATELLITE SITE
MARTHA ELIOT HEALTH CENTER*

JAMAICA PLAIN

*SATELLITE SITE
MARTHA ELIOT HEALTH CENTER*

Year Built: c. 1950/1985
 Structural Type:
 Occupancy: Martha Eliot Health Ctr.
 Gross Area: 18,161 s.f.
 No. of Floors: 3
 Responsible Entity: Boston Housing Authority (owner)
 Condition: Recent addition in good condition. Apartments converted to clinical functions in fair condition.



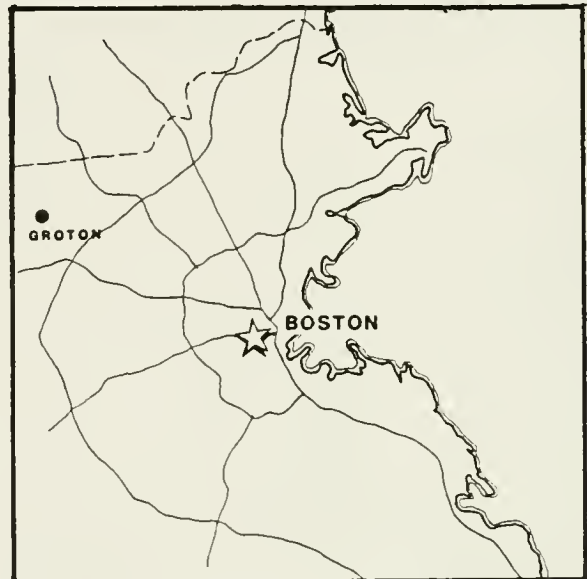
Typical Floor Plan



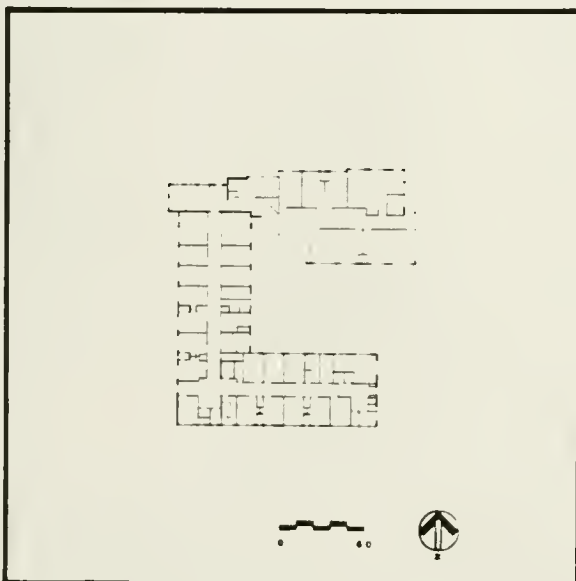
SATELLITE SITE
CHILDREN'S EXTENDED CARE FACILITY

GROTON

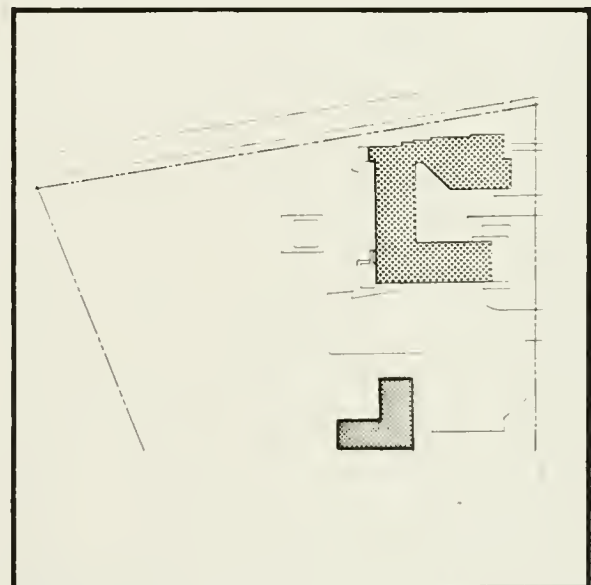
Year Built:	c. 1950/1987
Structural Type	Steel Frame
Occupancy:	Pediatric Nursing
Gross Area:	24,000 s.f.; admin. bldg.: 2500 s.f.
No. of Floors	2
Condition:	Current addition will improve the functional requirements. Existing electrical system needs upgrading.



Location Map



Upper Floor Plan



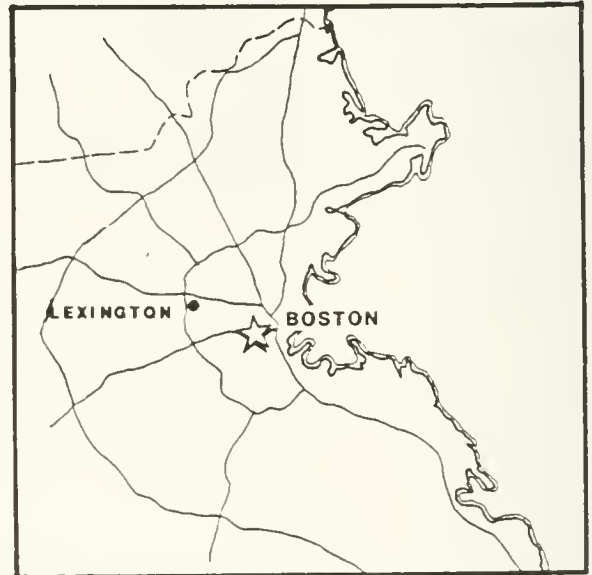
Site Location



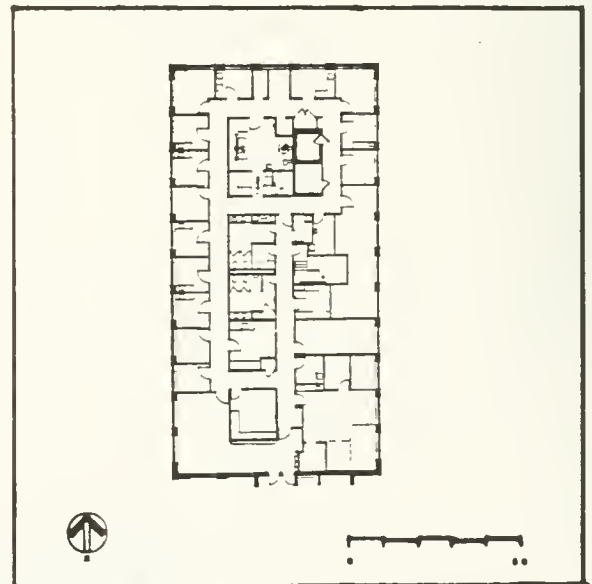
SATELLITE SITE
LEXINGTON SPECIALTY CARE CENTER

SATELLITE SITE
LEXINGTON SPECIALTY CARE CENTER

Occupancy:	Outpatient Care
(Children's	
Occupancy):	7,200 s.f.
No. of	
Floors:	1
Responsible	
Entity:	Haynes Management
	Company (leased)
Condition:	Good



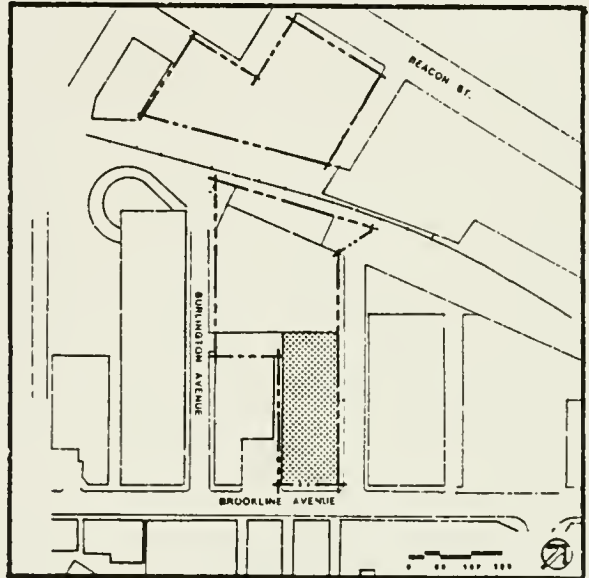
Location Map



Floor Plan

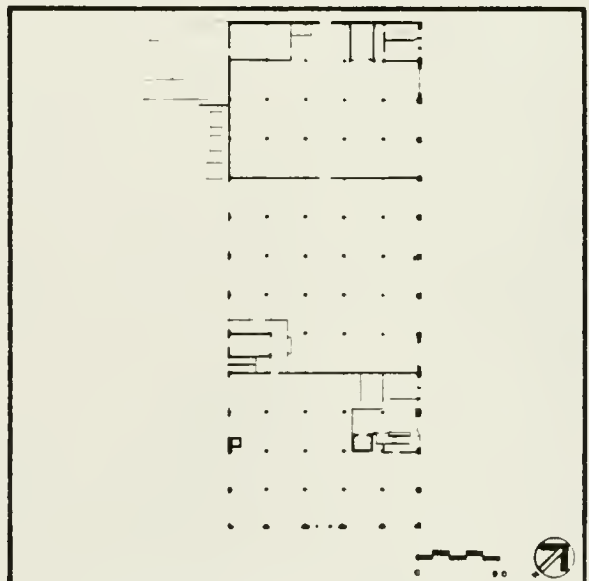


109 BROOKLINE AVENUE



Site Location

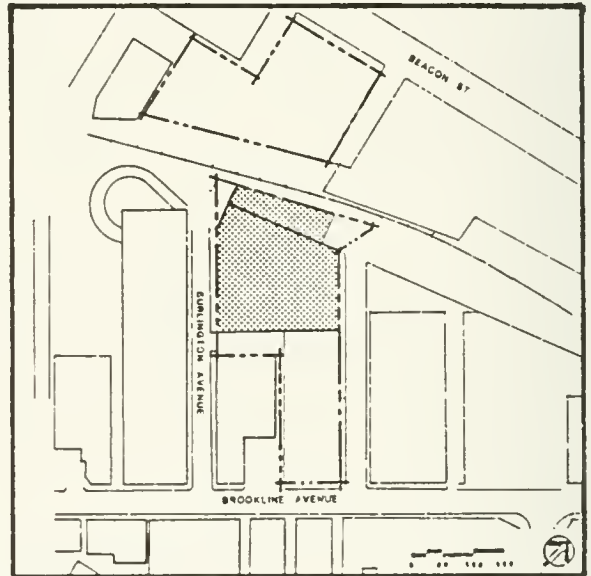
Year Built:	c. 1915
Structural Type:	Concrete
Occupancy:	Rental
Gross Area:	86,500 s.f.
No. of Floors:	3 + bsmt.
Responsible Entity:	Children's Medical Center
Condition:	Good physical condition, suitable for rental uses.



Typical Floor Plan



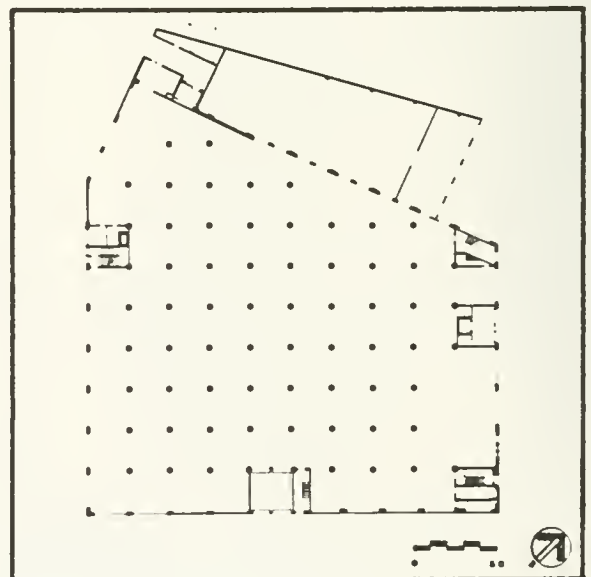
21 - 27 BURLINGTON AVENUE



Site Location

21 - 27 BURLINGTON AVENUE

Year Built:	c. 1910
Structural	
Type:	Concrete
Occupancy:	Rental
Gross Area:	210,080 s.f.
(Children's	
Occupancy):	50, 610 s.f.
No. of	
Floors:	5 + bsmt.
Responsible	
Entity:	Children's
	Medical Center
Condition:	Fair physical
	condition, very
	adaptable for
	its rental uses.



Typical Floor Plan

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3 9999 06315 584 8

